# State of California The Resources Agency Department of Water Resources

## RECREATION FACILITY INVENTORY AND CONDITION REPORT

**FINAL** 

**R-10** 

## Oroville Facilities Relicensing FERC Project No. 2100



September 2003

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This report was prepared under the direction of

by

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#### REPORT SUMMARY

The Department of Water Resources (DWR) commissioned this study as part of the relicensing process for the preparation of a license application to be submitted to the Federal Energy Regulatory Commission (FERC) for the Oroville Facilities FERC Project No. 2100 (Project). As part of this relicensing process, a series of related studies were conducted to assess and evaluate recreation resources associated with the Project. This report presents the results of one of those studies: an inventory and conditions evaluation of recreation facilities and sites in the study area, and associated sites with a Project nexus. The study consisted of an initial inventory and description of the condition of existing recreation facilities within the study area boundary. Additionally, a brief examination is provided regarding recreation areas affected by reservoir level. There is a brief discussion about planned facility development in the Project area. There are no major projects planned.

Several goals were identified for this study, all of which are focused on the documentation and inventory of recreation sites and facilities in the study area:

- ∉ Gather and review available documents related to recreation development at the Project.
- Interview representatives from the California Departments of Water Resources (DWR), Parks and Recreation (DPR), and Fish and Game (DFG), and other agencies and groups associated with recreation in the Project area.
- ∉ Conduct a physical inventory of recreation development at the Oroville Facilities.
- ∉ Identify planned recreational development in the study area.

The Project area is located in Butte County, and the FERC Project boundary extends from south of the city of Oroville to reaches of the South Fork, Middle Fork, and North Fork of the Feather River. Lake Oroville and Oroville Dam are part of a complex that also includes the Hyatt Pumping-Generating Plant, Thermalito Diversion Dam and Power Plant, the Feather River Hatchery, Thermalito Power Canal, Thermalito Forebay, Thermalito Pumping-Generating Plant, Thermalito Afterbay, Lake Oroville Visitors Center, and the Oroville Wildlife Area (OWA).

Lake Oroville is the second largest reservoir in California, after Lake Shasta. The Oroville Facilities offer a variety of recreational opportunities, including boating, fishing, and camping. Camping experiences in the area range from fully developed campgrounds to primitive, less developed sites. Opportunities for boat-in and floating campsites also exist. There are two full-service marinas, nine boat ramps (BRs), six car-top BRs, 10 floating campsites, and seven floating restrooms located around Lake Oroville. There are developed recreation facilities at Bidwell, Lime Saddle, Loafer Creek, North and South Thermalito Forebay Recreation Areas, and Spillway. Other recreation opportunities include picnicking, swimming, horseback riding, hiking, off-road bicycle riding, wildlife watching, and hunting. The area also offers visitor information sites with cultural and informational displays about Project-developed facilities and the area's natural environment. Additional recreational and visitor facilities are located at

the Visitors Center, Thermalito Diversion Pool, and Thermalito Afterbay, and in the OWA.

#### STUDY METHODS

The methodology used in this report was based on three sources of information: document reviews, telephone interviews, and field observations.

#### **Document Review**

Project-related documents were acquired from DWR and other sources for review. These documents provided an initial list of sites and facilities.

#### **Interviews**

Key personnel involved in recreation development, management, and planning at the Project area were selected as contacts to be interviewed from DWR, DPR, and DFG. A list of those interviewed is included (Appendix A). The purpose of conducting interviews was to gain knowledge into the planning process of the agencies and groups involved in recreation in the study area. Questions were asked about current projects to understand the potential effects on recreation facilities and visitor experiences at the Project area to ascertain information on future Project development.

#### **Field Observations**

The field observations incorporated two components:

- ✓ Year 2000 field inventory of existing recreation areas (supplemented in 2002 and 2003); and
- ∉ General assessment of conditions.

The two field observation components are described below.

### Year 2000 Field Inventory of Existing Recreation Areas (Supplemented in 2002 and 2003)

Researchers conducted an inventory of existing recreation areas in the study area. The primary basis for the inventory was to count the units of each type of recreation facility (e.g., picnic tables, campsites, bathrooms) and assess their general condition. After review, the field inventory and conditions assessment were revisited in 2002 and 2003 to incorporate facilities that were not constructed or completed in 2000.

Methods for the recreation site facility inventory and evaluation study involved a comparison of site-specific field observations with published information from DWR, DPR, and DFG reports. Existing conditions in the Complex were systematically

identified and documented through extensive field notes. Existing site and access areas were identified and documented on maps and summarized in table format. Included is a photographic record of samples from the sites and facilities photographed (Appendix B).

#### General Assessment of Conditions

The condition of existing developed recreation facilities in the study area was systematically evaluated through field observations. Researchers observed current conditions at the sites examined. To evaluate and categorize developed facilities covered by the inventory, four general categories of condition were used: (1) needs replacement (broken or missing components, or non-functional); (2) needs some repair (structural damage or otherwise in obvious disrepair); (3) needs some maintenance (primarily cleaning); and (4) is in good condition (functional and well maintained). Potentially unsafe conditions and signs of overuse were noted.

The following summary of results represents an inventory and evaluation of conditions at recreational sites in the study area. Results presented here include an inventory of recreation areas and a general assessment of their overall condition. The inventory is summarized in Tables 5.1-1 through 5.1-6. Conditions are summarized in Table 5.3-2. In addition, site photographs are presented in Appendix B.

### PROJECT AREA RECREATION RESOURCES INVENTORY AND CONDITIONS ASSESSMENT

This section summarizes site features and conditions at the Project area. This Recreation Facilities Inventory and Conditions Report used literature, interviews, and field observations to assess the level of developed recreational facilities.

Overall, most of the developed recreation facilities at the Project are in good condition. There are a few exceptions to the acceptable conditions of recreation facilities (see Figure 5.0-1). These include basic facilities maintenance of specific sites and placement of directional signs on major roads and at major intersections for certain cartop BRs. The need for evaluation and possible attention was noted for the following areas:

- ∉ The Afterbay Outlet Boat Ramp is in relatively poor condition and is typically recommended by four-wheel drive vehicles only (especially when muddy). The ramp is scheduled to be paved in 2004, which would eliminate this problem.

- ∉ Repair is needed to the shoulders of Nelson Bar Car-top BR and Stringtown Cartop BR.

- Frequency of service of garbage facilities at Dark Canyon Car-top BR, Enterprise BR, Foreman Creek Car-top BR, Stringtown Car-top BR and Wilbur Road (Thermalito Afterbay) BR.
- ∠ Lime Saddle Marina has been severely damaged by 2003 winter storms.

  Repairs are the responsibility of the concessionaire; a new concession contract is being solicited/negotiated.
- ∉ The secondary gravel/dirt road to OWA Area G needs maintenance.

When Lake Oroville is at its maximum elevation (900 feet above sea level), it covers approximately 15,810 acres and has 167 miles of shoreline. As the pool level decreases during the ensuing recreation season, the use of facilities such as boat ramps, car-top boat ramps, and boat-in camps is increasingly affected. Use of some recreational facilities is prevented during low water making shoreline exploration difficult and creating other resource impacts and conflicts.

#### Other facility issues:

- ∉ Generally, the Bidwell Canyon facilities are available at high, medium, and low lake levels; however, several houseboaters have stated on visitor surveys that they cannot reach the gas pumps (located at the Bidwell Marina) at the lowest reservoir levels experienced in 2002 (EDAW 2002).
- ∉ Periodic vehicle access closures due to the presence of sensitive cultural resources at Foreman Creek Car-top BR and Enterprise BR.
- ∉ The OWA boat ramps are unimproved and are not in good condition. These ramps are informal sites and are not currently scheduled to be upgraded.

#### **TABLE OF CONTENTS**

REP	ORT SU	JMMAR	Υ	RS-1
	Study	Docum Intervie	dsent Reviewews	RS-2 RS-2
	Proje		Observations	RS-2 RS-3
1.0	INTR	ODUCT	ION	1-1
	1.1 1.2 1.3 1.4	Study / Descrip	round Information Area ption of Facilities It Operational Constraints Downstream Operation 1.4.1.1 Instream Flow Requirements 1.4.1.2 Temperature Requirements 1.4.1.3 Water Diversions 1.4.1.4 Water Quality Flood Management	1-1 1-5 1-7 1-7 1-8 1-9
2.0	NEED	FOR S	STUDY	2-1
3.0	STUE	Y OBJE	ECTIVE(S)	3-1
4.0	METH 4.1 4.2 4.3	Docum Intervie	DGY	4-1 4-1 4-2
5.0	STUE 5.1		JLTS  t Area Resources Inventory  Campgrounds and Dispersed Camping  5.1.1.1 Bidwell Canyon Campground  5.1.1.2 Lime Saddle Campground  5.1.1.3 Lime Saddle Group Campground  5.1.1.4 Loafer Creek Campground  5.1.1.5 Loafer Creek Group Campground  5.1.1.6 Loafer Creek Horse Campground	5-1 5-1 5-2 5-2 5-2

Λroa)	
Area)	ɔ-ɔ
5.1.1.8 North Thermalito Forebay RV "En Route"	
Campground	5-6
5.1.1.9 Spillway RV "En Route" Campground	
5.1.2 Boat-in Campgrounds and Floating Campsites	
5.1.2.1 Bloomer Cove Boat-in Campground	
5.1.2.2 Bloomer Knoll Boat-in Campground	
5.1.2.3 Bloomer Point Boat-in Campground	
5.1.2.4 Bloomer Group Boat-in Campground	
5.1.2.5 Craig Saddle Boat-in Campground	
5.1.2.6 Foreman Creek Boat-in Campground	
5.1.2.7 Goat Ranch Boat-in Campground	
5.1.2.8 Floating Campsites	
5.1.3 Day Use Areas (DUA) and Other Recreation Area Facilities.	
5.1.3.1 Lake Oroville Visitors Center	
5.1.3.2 Feather River Fish Hatchery	
5.1.3.3 Oroville Dam	
5.1.3.4 Floating Restrooms	
5.1.3.5 Diversion Pool DUA	5-12
5.1.3.6 Aquatic Center	
5.1.3.7 Model Aircraft Flying Area	
5.1.3.8 Clay Pit State Vehicular Recreation Area	5-14
5.1.3.9 Rabe Road Shooting Range	5-14
5.1.4 Boat Ramps and Day Use Areas	5-14
5.1.4.1 Bidwell Canyon Boat Ramp and Day Use Area	5-15
5.1.4.2 Lime Saddle Boat Ramp and Day Use Area	5-15
5.1.4.3 Loafer Creek Boat Ramp and Day Use Area	5-16
5.1.4.4 Monument Hill Boat Ramp and Day Use Area	5-16
5.1.4.5 North Thermalito Forebay Boat Ramp and Day	
Use Area	5-17
5.1.4.6 South Thermalito Forebay Boat Ramp and Day	
Use Area	5-17
5.1.4.7 Spillway Boat Ramp and Day Use Area	5-17
5.1.4.8 Afterbay Outlet Boat Ramp	
5.1.4.9 Enterprise Boat Ramp	
5.1.4.10 OWA Unimproved Boat Ramps	
5.1.4.11 Wilbur Road (Thermalito Afterbay) Boat Ramp	
5.1.4.12 Dark Canyon Car-Top Boat Ramp	
5.1.4.13 Foreman Creek Car-Top Boat Ramp	
5.1.4.14 Larkin Road (Thermalito Afterbay) Car-Top Boat	
Ramp	5-20
5.1.4.15 Nelson Bar Car-Top Boat Ramp	
5.1.4.16 Stringtown Car-Top Boat Ramp	
5.1.4.17 Vinton Gulch Car-Top Boat Ramp	
5.1.5 Trailheads and Trails	

			amilton Trailhead Access, Thermalito	
			y/OWA	
			Road Trailhead Access	
			as Road Trailhead Access	
			nd Boulevard Trailhead Access	
			Dam Trailhead Access	
			ourth Trail	
			Canyon Trail	
			Freeman Trail	
			ral Interpretive Trail	
			eebe Trail	
			r Falls Trail	
		5.1.5.12 Kelly R	idge Trail	5-20
			addle Trail	
			Creek Day Use/Campground Trail	
			Creek Loop Trail Wildlife Area	
			Ravine Trail	
		5.1.5.16 RUY RU	ogers Trail and Trail	5-21 5.27
	5.2		Rivers, National Recreation Trails, and	
	J.Z			
		5.2.1 Federal Wild and	Scenic Rivers (WSRs)	5-28
			on Trails	
			ently Completed Projects	
	5.3		ected by Reservoir Level	
			•	
6.0	CON	LUSIONS		6-1
7.0	REFE	RENCES		7-1
APPI	ENDICE	:S		
Appe	ndix A	Persons Interviewed Abou	ut Recreation Development at the Projec	:t
	ndix B		phic Examples of Facilities	
	ndix C	DWR Trail Maps		
		·		
LIST	OF TA	BLES		
Table	1.2-1.	Recreation facilities with	in the study area	1-3
Table	e 5.1 <b>-</b> 1.		sed camping facilities	
Table	5.1-2.		psite facilities	
Table	5.1-3.		d other recreation area facilities	
Table	5.1-4.		areas	
Table	5.1-5.	Boat ramp facilities not a	associated with a DUA	5-22
Table	5.1-6.	Trailhead access facilitie	es and trails	5-24

Table 6.0-1. Table 6.0-2.	Recreation sites with all facilities in good condition
LIST OF FIGU	JRES
Figure 1.2-1. Figure 5.0-1	Oroville Facilities FERC Project Boundary1- Project Area and Associated Recreation Sites with Conditions5-
	ACRONYMS AND ABBREVIATIONS
af ARP Ame ATV all-te BIC Boat BR Boat BSC Butte ofs Cubic DFG Calif DPR Calif DUA Day DWR Calif FERC Fede FRSA Feat LOSRA Lake maf million MFFR Middomsl mea MW meg NPS Natio OHV off-h OWA Orov PCT Paci RV Recrisk SWP State SWP State SWP State SWP UA Univ USACE BOR Bure	ricans with Disabilities Act -feet Inded Recreation Plan Brain vehicle -in Campground Ramp Be Sailing Club Defet per second Brain Department of Fish and Game Brain Department of Parks and Recreation Brain Department of Water Resources Brail Energy Regulatory Commission Brain Department of Water Resources Brail Energy Regulatory Commission Brain River Service Area Brooville State Recreation Area Brooville State Recreation Area Brain acre-feet Brain Fork Feather River Brain sea level Brain Service Brain

#### 1.0 INTRODUCTION

#### 1.1 BACKGROUND INFORMATION

The Department of Water Resources (DWR) commissioned this study as part of the relicensing process for the preparation of a license application to be submitted to the Federal Energy Regulatory Commission (FERC) for the Oroville Facilities (FERC Project No. 2100). As part of this relicensing process, a series of related studies are being conducted to assess and evaluate recreation resources associated with the Project. This report presents the results of one of those studies: an inventory and evaluation of recreation facilities and sites in the Project area, Oroville Wildlife Area (OWA), and areas with a nexus to the Project area. The study consisted of an initial inventory and description of the condition of existing recreation facilities within the Project boundary. In addition to the above, detailed descriptions are provided for recreation areas affected by Lake Oroville's pool level, as well as planned facility development within the study area.

Lake Oroville is the second largest reservoir in California, after Lake Shasta. Existing facilities at Lake Oroville offer a wide variety of recreational opportunities, including numerous boating, fishing, and camping. Camping experiences in the area range from fully developed campgrounds to primitive, less-developed sites. Opportunities for experiencing boat-in and floating campsites also exist. There are two full-service marinas, nine boat ramps, six car-top boat ramps, 10 floating campsites, seven floating restrooms, and a visitors center located around Lake Oroville. There are developed recreation facilities at Loafer Creek, Bidwell Canyon, Spillway, and Lime Saddle. Other recreation opportunities include picnicking, swimming, horseback riding, hiking, off-road bicycle riding, wildlife watching, and hunting. The area also offers visitor information sites with cultural and informational displays about Project facilities and the area's natural environment. Additional recreational and visitor facilities are located at Thermalito Forebay, Thermalito Diversion Pool, Thermalito Afterbay, and the OWA.

#### 1.2 STUDY AREA

The Project is located in Butte County, and the FERC Project boundary extends from south of the city of Oroville upstream to river reaches of the South, Middle, and North Forks of the Feather River. Lake Oroville and Oroville Dam are part of a complex that also includes Hyatt Pumping-Generating Plant, Thermalito Diversion Dam Powerplant, the Feather River Fish Hatchery, Thermalito Power Canal, Thermalito Forebay, Thermalito Pumping-Generating Plant, Thermalito Afterbay, Lake Oroville Visitors Center, and the Oroville Wildlife Area (Figure 1.2-1).

In addition to Oroville, there are several nearby towns and cities including Chico, which is northwest of Oroville on State Route (SR) 99. Chico is a medium-sized city with many types of services and a large state university. To the north of the Project on SR 70 is the foothill town of Paradise, which is mainly residential with a few services. South of the Project area are several agriculture-based towns such as Yuba City and

Marysville, located on SR 99 and SR 70, respectively. Biggs and Gridley are smaller towns

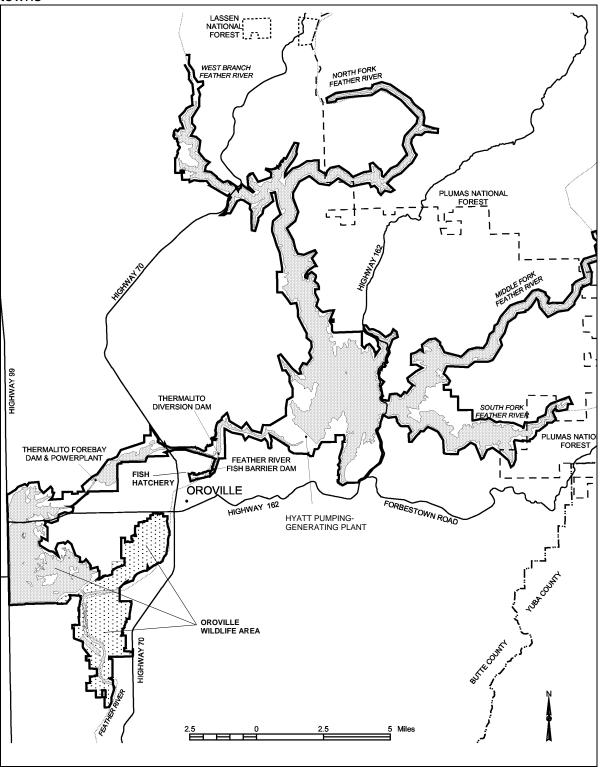


Figure 1.2-1. Oroville Facilities FERC Project Boundary.

between Yuba City and Oroville, both of which are located on SR 99. Sacramento is the largest metropolitan area in the Project's vicinity and is more than an hour's drive away.

After Lake Shasta, Lake Oroville is the largest reservoir in California. Lake Oroville offers a wide variety of existing recreational facilities and opportunities, including numerous boating, fishing, and camping opportunities. Camping experiences in the area range from fully developed campgrounds to more primitive sites. Boat-in-campsites (BICs) and floating campsites provide unique recreation opportunities. There are two full-service marinas, nine boat ramps (BRs), six car-top boat ramps (car-top BRs), 10 floating campsites, seven floating toilets, and a visitors center located around Lake Oroville. Other recreation opportunities include picnicking, swimming, horseback riding, hiking, off-road bicycle riding, wildlife watching, and hunting. The area offers visitor information sites with cultural and informational interpretive displays about Project facilities and the area's natural environment. Additional recreation and visitor facilities are located at Thermalito Forebay, Thermalito Diversion Pool, Thermalito Afterbay, and the Oroville Wildlife Area (OWA).

DWR has license responsibilities for facilities and designated recreation areas in the study area. DWR has agreements with DPR and DFG to manage most recreational and wildlife facilities and areas for DWR. DPR has management responsibilities at Lake Oroville and Thermalito Forebay. DFG has land management responsibilities at Thermalito Afterbay and the OWA, though DWR operates and maintains Afterbay recreation areas.

The study area includes Lake Oroville, the lands and waters within 1/4 mile of the FERC Project boundary, and adjacent lands, facilities, and areas with a clear Project nexus (see Figure 1.2-1). Recreation facilities inventoried for this report are listed in Table 1.2-1.

Table 1.2-1. Recreation facilities within the study area.

#### Facilities\*

#### **Campgrounds**

- ∉ Bidwell Canyon Campground
- ∉ Lime Saddle Campground
- ∉ Lime Saddle Group Campground
- ∉ Loafer Creek Campground
- ∉ Loafer Creek Group Campground
- ∉ Loafer Creek Horse Campground
- ∉ North Thermalito Forebay "En Route" RV Campground
- ∉ Oroville Wildlife Area Camping Areas (DFG)

#### **Boat-in Campsites (BICs) and Floating Campsites**

- ∉ Goat Ranch BIC
- ∉ Foreman Creek BIC
- ∉ Craig Saddle BIC
- ∉ Bloomer Cove BIC
- ∉ Bloomer Knoll BIC

Table 1.2-1. Recreation facilities within the study area.

#### Facilities\*

- ∉ Bloomer Point BIC
- ∉ Bloomer Group BIC
- ∉ Floating Campsites

#### **Day Use Areas (DUAs)**

- ∉ Diversion Pool (Burma Road) DUA
- ∉ Feather River Fish Hatchery (DWR/DFG)
- ∉ Lake Oroville Visitors Center (DWR/DPR)
- ∉ Loafer Creek BR/DUA
- ∉ Oroville Dam DUA
- ∉ Clay Pit State Vehicular Recreation Area (SVRA) (DPR)
- Ø Oroville Wildlife Area (DFG)
- ∉ Rabe Road Shooting Range (DFG)

#### **Boat Ramps (BRs)**

#### **Boat Ramps with Day Use Areas**

- ∉ Bidwell Canyon BR/DUA
- ∉ Enterprise BR/DUA
- ∉ Lime Saddle BR/DUA
- ∉ Monument Hill (Thermalito Afterbay) BR/DUA (DWR)
- ∉ North Thermalito Forebay BR/DUA
- ∉ South Thermalito Forebay BR/DUA
- ∉ Spillway BR/DUA

#### **Boat Ramps**

- ∉ Wilbur Road (Thermalito Afterbay) BR (DWR)
- ∉ Larkin Road (Thermalito Afterbay) Car-top BR (DWR)
- ∉ Foreman Creek Car-top BR
- ∉ Stringtown Car-top BR
- ∉ Dark Canyon Car-top BR
- ∉ Nelson Bar Car-top BR
- ∉ Afterbay Outlet BR

#### Trailheads and Trails

- ∉ East Hamilton Road Trailhead Access, Thermalito Afterbay (DWR)
- ∉ Lakeland Boulevard Trailhead Access
- ∉ Saddle Dam DUA Trailhead Access
- ∉ Tres Vias Road Trailhead Access, Thermalito Afterbay (DWR)
- ∉ Bidwell Canyon Trail
- ∉ Brad P. Freeman Trail
- ∉ Chaparral Interpretive Trail
- ∉ Dan Beebe Trail
- ∉ Loafer Creek Canyon Trail
- ∉ Loafer Creek Day Use/Campground Trail
- ∉ Oroville Wildlife Area
- ∉ Potter Ravine Trail (accessed from Spillway DUA)
- ∉ Wyk Island (at Bidwell BR)

Source: EDAW 2003.

<sup>\*</sup> All facilities are managed by DPR unless specified.

#### 1.3 DESCRIPTION OF FACILITIES

The Oroville Facilities were developed as part of the State Water Project (SWP), a water storage and delivery system of reservoirs, aqueducts, power plants, and pumping plants. The main purpose of the SWP is to store and distribute water to supplement the needs of urban and agricultural water users in Northern California, the San Francisco Bay area, the San Joaquin Valley, and Southern California. The Oroville Facilities are also operated for flood control power generation, to improve water quality in the Delta, enhance fish and wildlife, and provide recreation.

FERC Project No. 2100 encompasses 41,100 acres and includes Oroville Dam and Reservoir, three power plants (Hyatt Pumping-Generating Plant, Thermalito Diversion Dam Power Plant and Thermalito Pumping-Generating Plant), Thermalito Diversion Dam, the Feather River Fish Hatchery and Fish Barrier Dam, Thermalito Power Canal, Oroville Wildlife Area (OWA), Thermalito Forebay and Forebay Dam, Thermalito Afterbay and Afterbay Dam, transmission lines, and a relatively large number of recreational facilities. An overview of these facilities is provided in Figure 1.2-1.

Oroville Dam, along with two small saddle dams, impounds Lake Oroville, a 3.5-million-acre-foot (maf) capacity storage reservoir with a surface area of 15,810 acres at its maximum normal operating level of 900 feet above mean sea level (msl).

The hydroelectric facilities have a combined licensed generating capacity of approximately 762 megawatts (MW). The Hyatt Pumping-Generating Plant is the largest of the three power plants with a capacity of 645 MW. Water from the six-unit underground power plant (three conventional generating and three pumping-generating units) is discharged through two tunnels into the Feather River just downstream of Oroville Dam. The plant has a generating and pumping flow capacity of 16,950 cfs and 5,610 cfs, respectively. Other generation facilities include the 3-MW Thermalito Diversion Dam Power Plant and the 114-MW Thermalito Pumping-Generating Plant.

Thermalito Diversion Dam, four miles downstream of the Oroville Dam, creates a tail water pool for the Hyatt Pumping-Generating Plant and is used to divert water into the Thermalito Power Canal. Thermalito Diversion Dam Power Plant is a 3-MW power plant located on the left abutment of the Diversion Dam. The power plant releases a maximum of 615 cfs of water into the river.

The Power Canal is a 10,000-foot-long channel designed to convey generating flows of 16,900 cfs to the Thermalito Forebay and pump-back flows to the Hyatt Pumping-Generating Plant. Thermalito Forebay is an off-stream regulating reservoir for the 114-MW Thermalito Pumping-Generating Plant. The Thermalito Pumping-Generating Plant is designed to operate in tandem with the Hyatt Pumping-Generating Plant and has generating and pump-back flow capacities of 17,400 cfs and 9,120 cfs, respectively. When in generating mode, the Thermalito Pumping-Generating Plant discharges into Thermalito Afterbay, which is contained by a 42,000-foot-long earth-fill dam. The Afterbay is used to release water into the Feather River downstream of the Oroville Facilities, helps regulate the power system, provides storage for pump-back operations,

provides recreational opportunities, and provides local irrigation water. Several local irrigation districts also receive Lake Oroville water via the Afterbay.

The Feather River Fish Barrier Dam is downstream of the Thermalito Diversion Dam and immediately upstream of the Feather River Fish Hatchery. The flow over the dam maintains fish habitat in the low-flow channel of the Feather River between the dam and the Afterbay outlet, and provides attraction flow for the hatchery. The hatchery is an anadromous fish hatchery intended to compensate for salmon and steelhead spawning grounds made unreachable by construction of Oroville Dam. Hatchery facilities have a production capacity of 10 million fall-run salmon, 5 million spring-run salmon, and 450,000 steelhead annually (pers. comm., Anna Kastner 2003). However, diseases have reduced hatchery production in recent years.

The Oroville Facilities support a wide variety of recreational opportunities. They include boating (several types), fishing (several types), fully developed and primitive camping (including boat-in and floating sites), picnicking, swimming, horseback riding, hiking, off-road bicycle riding, wildlife watching, hunting, and visitor information sites with cultural and informational displays about the developed facilities and the natural environment. There are major recreation facilities at Loafer Creek, Bidwell Canyon, Spillway, Lime Saddle, and Thermalito Forebay. Lake Oroville has two full-service marinas, five cartop boat ramps, 10 floating campsites, and seven two-stalled floating toilets. There are also recreation facilities at the Lake Oroville Visitors Center, Thermalito Afterbay, and the OWA.

The OWA comprises approximately 11,000 acres west of Oroville that is managed for wildlife habitat and recreational activities. It includes the Thermalito Afterbay and surrounding lands (approximately 6,000 acres) along with 5,000 acres adjoining the Feather River. The 5,000-acre area is adjacent to or straddles 12 miles of the Feather River, and includes willow and cottonwood-lined ponds, islands, and channels. Recreation areas include dispersed recreation (hunting, fishing, and bird watching), plus recreation at developed sites, including Monument Hill DUA, model airplane grounds, and three boat ramps on the Afterbay and two on the river, and two primitive camping areas. California Department of Fish and Game's (DFG) habitat enhancement program includes a wood duck nest-box program and dry land farming for nesting cover and improved wildlife forage. Limited gravel extraction also occurs in a few locations.

#### 1.4 CURRENT OPERATIONAL CONSTRAINTS

Operation of the Oroville Facilities varies seasonally, weekly and hourly, depending on hydrology and the objectives DWR is trying to meet. Typically, releases to the Feather River are managed to conserve water while meeting a variety of water delivery requirements, including flow, temperature, fisheries, diversion and water quality. Lake Oroville stores winter and spring runoff for release to the Feather River as necessary for Project purposes. Meeting the water supply objectives of the SWP has always been the primary consideration for determining Oroville Facilities operation (within the regulatory constraints specified for flood control, in-stream fisheries, and downstream uses).

Power production is scheduled within the boundaries specified by the water operations criteria noted above.

Annual operations planning is conducted for multi-year carryover storage. The current methodology is to retain half of the Lake Oroville storage above a specific level for subsequent years. Currently, that level has been established at 1,000,000 acre-feet (af); however, this does not limit drawdown of the reservoir below that level. If hydrology is drier or requirements greater than expected, additional water could be released from Lake Oroville. The operations plan is updated regularly to reflect forecast changes in hydrology and downstream operations. Typically, Lake Oroville is filled to its maximum operating level of 900 feet above msl in June and then lowered as necessary to meet downstream requirements, to a minimum level in December or January (approximately 700 above msl). During drier years, the reservoir may be drawn down more and may not fill to desired levels the following spring. Project operations are directly constrained by downstream operational demands and flood management criteria as described below.

#### 1.4.1 Downstream Operation

An August 1983 agreement between DWR and DFG entitled "Agreement Concerning the Operation of the Oroville Division of the State Water Project for Management of Fish & Wildlife," sets criteria and objectives for flow and temperatures in the low-flow channel and the reach of the Feather River between Thermalito Afterbay and Verona. This agreement (1) establishes minimum flows between Thermalito Afterbay Outlet and Verona which vary by water year type; (2) requires flow changes under 2,500 cfs to be reduced by no more than 200 cfs during any 24-hour period (except for flood management, failures, etc.); (3) requires flow stability during the peak of the fall-run Chinook salmon spawning season; and (4) sets an objective of suitable temperature conditions during the fall months for salmon and during the later spring/summer for shad and striped bass.

#### 1.4.1.1 Instream Flow Requirements

The Oroville Facilities are operated to meet minimum flows in the Lower Feather River as established by the 1983 agreement (see above). The agreement specifies that Oroville Facilities release a minimum of 600 cfs into the Feather River from the Thermalito Diversion Dam for fisheries purposes. This is the total volume of flows from the Diversion Dam outlet, Diversion Dam power plant, and the Feather River Fish Hatchery pipeline.

Generally, the instream flow requirements below Thermalito Afterbay are 1,700 cfs from October through March, and 1,000 cfs from April through September. However, if runoff for the previous April through July period is less than 1,942,000 af (i.e., the 1911-1960 mean unimpaired runoff near Oroville), the minimum flow can be reduced to 1,200 cfs from October to February, and 1,000 cfs for March. A maximum flow of 2,500 cfs is

maintained from October 15 through November 30 to prevent spawning in overbank areas that might become de-watered.

#### 1.4.1.2 Temperature Requirements

The Diversion Pool provides the water supply for the Feather River Fish Hatchery. The hatchery temperature objectives are 52 \ for September, 51 \ for October and November, 55 \ for December through March, 51 \ for April through May 15, 55 \ for last half of May, 56 \ for June 1-15, 60 \ for June 16 through August 15, and 58 \ for August 16-31. In April through November, a temperature range of plus or minus 4 \ for allowed for objectives.

There are several temperature objectives for the Feather River downstream of the Afterbay outlet. During the fall months, after September 15, the temperatures must be suitable for fall-run Chinook salmon. From May through August, the temperatures must be suitable for shad, striped bass, and other warmwater fish.

The National Marine Fisheries Service (NMFS) has also established an explicit criterion for steelhead trout and spring-run Chinook salmon, memorialized in a biological opinion on the effects of the Central Valley Project and SWP on Central Valley spring-run Chinook and steelhead. As a reasonable and prudent measure, DWR attempts to control water temperature at Feather River mile 61.6 (Robinson's Riffle in the low-flow channel) from June 1 through September 30. This measure attempts to maintain water temperatures less than or equal to 65 F on a daily average. The requirement is not intended to preclude pump-back operations at the Oroville Facilities needed to assist the State of California with supplying energy during periods when the California ISO anticipates a Stage 2 or higher alert.

The hatchery and river water temperature objectives sometimes conflict with temperatures desired by agricultural diverters. Under existing agreements, DWR provides water for the Feather River Service Area (FRSA) contractors. The contractors claim a need for warmer water during spring and summer for rice germination and growth (i.e., minimum 65% from approximately April through mid-May, and minimum 59% during the remainder of the growing season), though there is no explicit obligation for DWR to meet the rice water temperature goals. However, to the extent practical, DWR does use its operational flexibility to accommodate the FRSA contractor's temperature goals.

#### 1.4.1.3 Water Diversions

Monthly irrigation diversions of up to 190,000 af (July 2002) are made from the Thermalito Complex during the May through August irrigation season. Total annual entitlement of the Butte and Sutter County agricultural users is approximately 1.0 maf. After meeting these local demands, flows into the lower Feather River (and outside of the Project 2100 boundary) continue into the Sacramento River and into the

Sacramento-San Joaquin Delta. In the northwestern portion of the Delta, water is pumped into the North Bay Aqueduct. In the south Delta, water is diverted into Clifton Court Forebay where the water is stored until it is pumped into the California Aqueduct.

#### 1.4.1.4 Water Quality

Flows through the Delta are maintained to meet Bay-Delta water quality standards arising from DWR's water rights permits. These standards are designed to meet several water quality objectives such as salinity, Delta outflow, river flows, and export limits. The purpose of these objectives is to attain the highest reasonable water quality, considering all demands being made on the Bay-Delta waters. In particular, they protect a wide range of fish and wildlife including Chinook salmon, Delta smelt, striped bass, and the habitat of estuarine-dependent species.

#### 1.4.2 Flood Management

The Oroville Facilities are an integral component of the flood management system for the Sacramento Valley. During the wintertime, the Oroville Facilities are operated under flood control requirements specified by the U.S. Army Corps of Engineers (USACE). Under these requirements, Lake Oroville is operated to maintain up to 750,000 af of storage space to allow for the capture of significant inflows. Flood control releases are based on the release schedule in the flood control diagram or the emergency spillway release diagram prepared by the USACE, whichever requires the greater release. Decisions regarding such releases are made in consultation with the USACE.

The flood control requirements are an example of multiple use of reservoir space. When flood management space is not required to accomplish flood management objectives, the reservoir space can be used for storing water. From October through March, the maximum allowable storage limit (point at which specific flood release would have to be made) varies from about 2.8 to 3.2 maf to ensure adequate space in Lake Oroville to handle flood flows. The actual encroachment demarcation is based on a wetness index, computed from accumulated basin precipitation. This allows higher levels in the reservoir when the prevailing hydrology is dry. When the wetness index is high in the basin (i.e., potential runoff from the watershed above Lake Oroville), required flood management space is at its greatest to provide the necessary flood protection. From April through June, the maximum allowable storage limit is increased as the flooding potential decreases, which allows capture of the higher spring flows for use later in the year. During September, the maximum allowable storage decreases again to prepare for the next flood season. During flood events, actual storage may encroach into the flood reservation zone to prevent or minimize downstream flooding along the Feather River.

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#### 2.0 NEED FOR STUDY

This study is needed to meet Fern's direction for preparing recreation resource reports. Specifically, FERC guidelines state the recreational resources report must contain, "a description of any existing recreational facilities at the project…a statement of the existing measures or facilities to be continued or maintained…" (Chapter 1, Subpart F, Section 4.51 of 18 CFR).

The R10 Recreation Facility and Condition Inventory will expand on previous agency studies in order to provide the most current facilities assessment.

Prior to development of the Study Plan for R10 Recreation Facility and Condition Inventory, issues were identified by the work group. Through a consensus-based approach, recreation and socioeconomic issues were developed and then consolidated into several summarizing Issue Statements. Approximately 150 specific issues were identified, and six recreation-related Issue Statements were chosen for in-depth study.

R10 Study results will address Issue Statement Recreation (R) 1—adequacy of existing project recreation facilities, opportunities, and access to accommodate current use and future demand. Specific issues that will be addressed include: RE 1, 2, 5-17, 19-39, 55, 56, 60, 64-83, 95, 96, 104, 105, 118-130, 132-145, 147, 150, and 151.

Results from this study will be used to develop potential Resource Actions regarding facility enhancements. Additionally, this study will provide information to support R2—Recreation Safety Assessment; R5—Assess Recreation Areas Management; R6—ADA Accessibility; R7—Reservoir Boating Survey; R8—Carrying Capacity, R14—Assess Regional Recreation and Barriers to Recreation, and R17—Recreation Needs Analysis.

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#### 3.0 STUDY OBJECTIVE(S)

The objective of this study is to inventory existing recreation facilities within the Project study area. In the process of documenting existing facilities, conditions and maintenance issues were also evaluated. A photographic inventory was also taken to document representative recreation facilities.

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#### 4.0 METHODOLOGY

The methodology used in this report was based on three sources of information: document reviews, telephone interviews, and field observations.

#### 4.1 DOCUMENT REVIEW

The DWR 1993 Amended Recreation Plan (ARP) for the study area superseded the 1966 Report (Bulletin 117-6) and was accepted by FERC as the Recreation Plan for the study area. This was done in compliance with the FERC Order of October 1, 1992, and accepted with additions by the FERC Order of September 22, 1994. The 1993 ARP describes the recent improvements (pre-1993 ARP acceptance) and the commitments of DWR to construct specific additional facilities and take actions to address the fisheries and recreation needs at Project No. 2100 deemed necessary by FERC. The 1993 ARP also detailed the timeframe for the completion of additional proposed projects. DWR also acknowledged in the 1993 ARP that as the licensee, they were responsible for funding specific improvements. The 1993 ARP describes the fish and wildlife resources, facilities, local area, user patterns, operation of Project area facilities, economic considerations, recreation plan, and the fisheries management plan.

The updated 1993 ARP acknowledged that recreation activities and preferences had changed over time (1966-1993), resulting in less demand for boat use and fishing, and increased demand for equestrian, bike, and hiking trails. Another finding was that use patterns at that time (1993) had changed due to low water levels, making some facilities temporarily inaccessible or seasonally unusable. The plan put forth recommendations for facility expansion and modification in light of these findings. All of these recommendations have since been implemented.

Project-related documents were acquired from DWR, Department of Parks and Recreation (DPR), DFG, and other sources for review including the DWR 1993 ARP and the 1966 Recreation Report (Bulletin 117-6). These documents provided an initial list of sites and facilities and background information.

#### 4.2 INTERVIEWS

Key personnel involved in recreation development, management, and planning at the Project were selected as contacts to be interviewed. Interviews were conducted with personnel from DWR, DPR, DFG, and to some extent the Department of Boating and Waterways. A list of those interviewed is included as Appendix A. The purpose of conducting interviews was to gain knowledge of the planning process of the agencies and groups involved in recreation within the study area. Questions were asked about current projects to understand the potential effects on recreation facilities and visitor experiences at the Project and to ascertain information on future development within the study area (FERC Project No. 2100).

#### 4.3 FIELD OBSERVATIONS

Field observations were conducted to verify and supplement information learned during the document review and interviews. The field observations incorporated two components:

- ∉ General assessment of conditions.

The field observation components are described below.

### 4.3.1 Year 2000 Field Inventory of Existing Recreation Areas (Supplemented in 2002 and 2003)

Researchers conducted an inventory of existing recreation areas and facilities in the study area. The primary basis for the inventory was to count the units of each type of recreation facility (e.g., picnic tables, campsites, bathrooms) and assess their general condition. After review, the field inventory and conditions assessment was revisited in 2002 and 2003 to incorporate facilities that were not constructed or completed in 2000. Results of the inventory are summarized in tabular format in Section 5. Existing conditions in the complex were systematically identified and documented through extensive field notes. Existing site and access areas were identified and documented on maps and summarized in table format. Included is a photographic record of representative samples from the sites and facilities photographed (Appendix B). Methods for the recreation site facility inventory and evaluation study involved a comparison of site-specific field observations with published information from DWR, DPR, and DFG reports.

#### 4.3.2 General Assessment of Conditions

The condition of existing developed recreation facilities in the Project area was systematically evaluated through field observations. Researchers observed current conditions at the sites examined. To evaluate and categorize developed facilities covered by the inventory, four general categories of condition were used:

- ∉ Facility needs replacement (broken or missing components, or non-functional);
- ∉ Facility needs some repair (structural damage or otherwise in obvious disrepair);
- ∉ Facility needs some maintenance (primarily cleaning); and
- ∉ Facility is in good condition (functional and well maintained).

Potentially unsafe conditions and signs of overuse were also noted. Results of this assessment are presented in tabular format in Section 6.0. This report reflects repairs conducted by DPR in 2003.

#### 5.0 STUDY RESULTS

The following results represent an inventory and evaluation of conditions at recreational sites within the Project area. Figure 5.0-1 identifies the locations of these recreational facilities and sites. Results presented here include an inventory of recreation areas and a general assessment of their overall condition

#### 5.1 PROJECT AREA RESOURCES INVENTORY

The following results represent an inventory and evaluation of conditions at recreational sites within the Project area, and related facilities. Figure 5.0-1 identifies the locations of these recreational facilities and sites. Results presented here include an inventory of recreation areas, a general assessment of their overall condition, and an evaluation of overall accessibility (see Study R-6 ADA Accessibility Assessment for full accessibility analysis). The inventory (Tables 5.1-1 through 5.1-6) and conditions are summarized in tabular format (Tables 6.0-1 and 6.0-2). In addition, site photographs with captions are presented in Appendix B.

Current recreation resources within the Project area are discussed below. This discussion is presented and organized as five sections: campgrounds, BICs, DUAs, BRs and trails.

#### 5.1.1 Campgrounds and Dispersed Camping

Recreation facilities described in this section include:

- ∉ Bidwell Canyon Campground;
- ∉ Lime Saddle Campground ;
- ∉ Lime Saddle Group Campground;
- ∉ Loafer Creek Campground;
- ∉ Loafer Creek Group Campground;
- ∉ Loafer Creek Horse Campground;
- ∉ Oroville Wildlife Area (Afterbay Outlet Camping Area);
- ∉ North Thermalito Forebay RV "En Route" Campground; and
- ∉ Spillway RV "En Route" Campground.

#### 5.1.1.1 Bidwell Canyon Campground

Bidwell Canyon is located along the southern shore of Lake Oroville and to the west of Oroville Dam. It is a popular water-skiing and fishing spot, as well as a home base for many boaters. This facility has 75 campsites for either tents or Recreational Vehicles (RVs), all with full hookups. There is a seasonally staffed booth at the entrance to greet visitors and collect fees. Two flush toilets, piped water, six showers, a picnic area with 21 tables, shade trees, and fire grills are available (Table 5.1-1). Bidwell Canyon Campground is one of the major attractions at the Project area. Overall, the facilities at Bidwell Canyon Campground were in good condition (Table 6.0-1).

#### 5.1.1.2 Lime Saddle Campground

Lime Saddle Campground is located on the western shoreline of the West Branch of the North Fork arm of Lake Oroville and is accessed from State Route (SR) 70 then Pentz Road. This is the newest of the FERC No. 2100 Project area campgrounds. There is a staffed visitor information and fee-collection kiosk. Adjacent to the entrance kiosk are two telephones (one is Americans with Disabilities Act [ADA] accessible) and nine single-vehicle parking spaces (one is ADA accessible). Between the entrance kiosk and the individual campsites is an RV dump station with two stalls. The campground has 50 total sites: 44 individual campsites (28 individual car/tent sites and 16 that are available for RVs with full hookups) and a group site (described below). Each individual campsite has a table and a fire ring. There are two restroom/shower buildings located among the 44 campsites. Within the two buildings there are six flush toilets and four showers (Table 5.1-1). There are numerous water spigots and gray water sumps throughout the campground. There are six dumpsters placed throughout the campground. The facility, which opened in July 2001, was in good condition (Table 6.0-1).

#### 5.1.1.3 Lime Saddle Group Campground

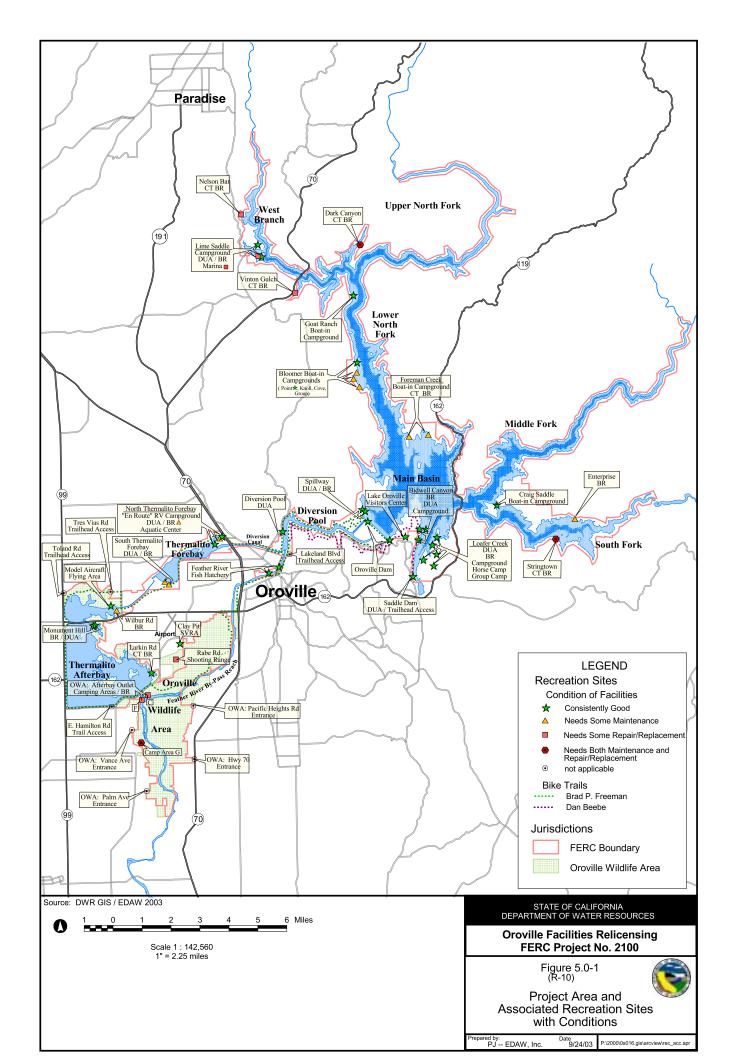
The group campground is located closer to the entrance kiosk and separate from the 44 individual campsites described above. Essentially, the group campground is designed with a central parking and restroom/shower area that has an island in its center with a picnic table. The parking area has 16 single-vehicle parking sites (two are ADA accessible) with two garbage dumpsters (Table 5.1-1). The central restroom/shower building has three ADA-accessible flush toilets and two ADA-accessible showers. The group campground is split into two areas, Pinecone and Acorn. Each has a shade structure with three tables underneath along with a garbage receptacle, large barbecue, and a water fountain/spigot. Between the Pinecone and Acorn sites there are six campsites (three are ADA accessible). Two of the ADA-accessible campsites are in the Pinecone area and are accessed with a multi-level ADA-accessible ramp system that affords a tent user to be a bit away from the main area (shade structure). The ADA-accessible campsite in the Acorn area is directly adjacent to the main area (shade structure). The campground and facilities were in good condition (Table 6.0-1).

#### 5.1.1.4 Loafer Creek Campground

Loafer Creek Campground includes 137 campsites (6 ADA accessible) for tents and RVs (Table 5.1-1). There is a staffed entrance booth for visitor information and fee collection. Campsites have tables, fire rings with grills, tent pads, shade trees, and nearby drinking water. There are 20 flush toilets (12 ADA accessible), 16 showers with hot water, 12 gray water sumps, and a telephone. This facility was in good condition (Table 6.0-1).



11 x 17 insert



Back of Figure 5.0-1

#### 5.1.1.5 Loafer Creek Group Campground

This area is adjacent to the Loafer Creek Campground and shares the staffed entrance booth for contacting visitors and collecting fees. There are six separate group sites, each able to accommodate 25 people, that share restrooms and showers (Table 5.1-1). There are eight flush toilets (four ADA accessible) and eight showers (also ADA accessible). Each unit has several tables, a sink with running water, shade trees, five large tent pads, nearby water spigots, and parking spaces for eight vehicles. The area was in good condition (Table 6.0-1).

#### 5.1.1.6 Loafer Creek Horse Campground

This area is located adjacent to the campground and group camp, sharing the staffed entrance booth for contacting visitors and fee collection. The horse campground has 15 sites, each with trailer parking, a fire ring with cooking grill, and a table (Table 5.1-1). Additionally, each campsite has a corral to feed and secure horses. There are two flush toilets (one is ADA accessible) and two showers (one is ADA accessible). There is a horse washing area that can accommodate two horses at a time. In 2002, there were several upgrades to the site including an equestrian exercise ring, corrals with feeders, and the entrance road was paved. The Dan Beebe Trail can be accessed directly from the site. The facilities were in good condition (Table 6.0-1).

#### 5.1.1.7 Oroville Wildlife Area (Afterbay Outlet Camping Area)

Located southwest of Lake Oroville, the OWA contains a series of ponds and levees adjacent to the Feather River. Thermalito Afterbay is also part of the OWA. Fishing, hunting, nature study, and river-associated recreation are the primary activities at the wildlife area. This area is managed under a cooperative agreement between the DFG and the DWR. The area provides recreational opportunities such as shooting and hunting (limited hunting for turkeys in the spring) (DWR 2000b).

There are an undetermined number of primitive campsites (places to park an RV or stake a tent) at a designated area that DFG calls Area C. At this part of the Afterbay Outlet, there is an improved one-lane boat ramp, two ADA-accessible vault toilets, and several garbage receptacles. Area C is a designated camping area accessed from Larkin Road. On the other side (southwest) of Thermalito Afterbay Outlet, designated camping is available in Area F, an ADA-accessible vault toilet, and several garbage receptacles. The site is accessed from Vance Avenue. The third designated DFG camping site at Thermalito Afterbay Outlet Camping Area is south of areas C and F and is called Area G. Area G is located adjacent to Mile-long Pond, which is also accessed from Vance Avenue (or Palm Avenue) (Table 5.1-1). There are two unimproved boat ramps (not graded or graveled) on the north end of Mile-long Pond and two non-ADA-accessible portable toilets, both in good condition. There is also an unimproved boat ramp (not graded or graveled) on the south end of Mile-long Pond. These are addressed in Section 5.4. A secondary dirt road needs some maintenance (Table 6.0-2).

The Afterbay Outlet Camping Area also provides swimming and fishing access to the OWA ponds and the Feather River. Inventory staff noted that the facilities were in fair condition. Parts of the access roads could use grading, and there was a considerable amount of garbage strewn about the area in 2000; it was in the same condition in 2003 (Table 6.0-2). There is a noticeable lack of directional signs on the main roads where the OWA is accessed. For example, on Larkin Road near Vance Avenue and Palm Avenue, there are no OWA signs. The OWA could also use signs on SR 162, in both directions near the entrance to the DFG Headquarters and south of Oroville on SR 70. Directional signs are located within the OWA.

#### 5.1.1.8 North Thermalito Forebay RV "En Route" Campground

The North Forebay area covers roughly half (300 surface acres) of Thermalito Forebay's 630 surface acres and hosts non-motorized boating and other recreational activities (DWR 2000b). There are 15 "en route" (self-contained) RV parking spaces with no hookups (Table 5.1-1). The facilities were in good condition (Table 6.0-1). Other facilities located at the North Forebay can be found in Section 5.1.4.5 North Thermalito Forebay Boat Ramp and Day Use Area.

#### 5.1.1.9 Spillway RV "En Route" Campground

This campground consists of 40 parking spaces that have been reserved for RV "en route" (self-contained) camping (Table 5.1-1). These spaces are located in the upper parking lot at Spillway. There are no hook-ups for these spaces. This area was in good condition (Table 6.0-1). Other facilities located at Spillway can be found in Section 5.1.4.7 Spillway Boat Ramp and Day Use Area.

#### 5.1.2 Boat-in Campgrounds and Floating Campsites

Boat-in campgrounds (BICs) are most usable at higher pool levels. At lower pool levels the campsites are inconveniently far from the water. There are no established pathways and access to the BICs and therefore their use requires walking up steep hillsides if water levels are low. The boat-in camps do not generally receive visitors when the reservoir is below 850 feet above msl. Figure B-9 in Appendix B demonstrates the barrier presented to boat-in campers at lower lake levels. A staircase or parking area could be added at one of the BICs if needed to accommodate future demand.

Table 5.1-1. Campground and dispersed camping facilities.

	200	GEO 0:1	,	PSI ~	200		rampgi cama anchereca camping racinace.			J 1401						
	Overn	Overnight Use	se				Health	⋖	Safety					Ö	Other	
Recreation Site	,əldst dable, grill			stəlic	st	St		neter	dwng r	noitstS	Se		Se	ړ	ter	
	Campsites	Tent Pads	sətis VЯ	Portable To	olioT tlus√	elioT daul∃	Showers	Potable Ws	Gray Wate	RV Dump :	Garbage Receptacle	Telephone	Shade Tre	Entrance booth/kiosł	sədiidqmA	Parking
Bidwell Canyon Campground	75	ı	75	ı	l	2	9	Yes	ı	ı	3		Yes	-	ı	45
Lime Saddle Campground	44	I	16	I	I	9	4	Yes	ı	-	9	2 (1 ADA)	Yes	-	ı	9 (1 ADA) <sup>5</sup>
Lime Saddle Group Campground	6 <sup>2</sup> (3 ADA)	I	-	I	I	3 (all ADA)	2 (all ADA)	Yes	I	I	2	I	Yes	1	I	16 (2 ADA) <sup>5</sup>
Loafer Creek Campground	137 (6 ADA)	137		I		20 (12 ADA)	16	Yes	12	I	21	1	Yes	1	1	16 <sup>5</sup>
Loafer Creek Group Campground	<sub>5</sub> 9	30		I	1	8 (4 ADA)	8 (all ADA	Yes		I	2	I	Yes	-	I	48
Loafer Creek Horse Campground³	15	1		I	I	2 (1 ADA)	2 (1 ADA)	Yes	I	ı	11	I	Yes	1	1	15
OWA Dispersed Camping: Area C	None	-		I	2 (all ADA)	-	I			-	Unknown	I	Yes	I		Undefined
Агеа F	None			I	1 (ADA)	I				I	Unknown		Yes			Undefined
Area G	None	I	I	2		-	I	I		ı	Unknown	I	Yes	ı	ı	Undefined
North Forebay RV "En Route" Campground		I	15	I	1	I	I	I	l	I	I	I		-	I	I
Spillway RV "En Route" Campground⁴	I	1	40	ı	1	1		ı	1	1	I	1		1	1	1
	11 11 111															

Note: The dash indicates that there is no facility or that the category does not apply.

All entrance booths/kiosks are shared with other recreation facilities at that location (DUAs, BRs, other campgrounds).

Group campsites have tables, but no fire rings. Lime Saddle sites have BBQ's, Loafer Creek sites do not.

Other facilities specifically for horses are not listed in the table. See 5.1.1.6 for a description of these facilities.

The Route" campgrounds consist of parking spaces with no hook-ups. North Forebay has 6 picnic tables surrounding the parking sites. See 5.1.1.8 and 5.1.1.9 for more information on facilities

at these sites. § Number of parking spaces in addition to the spaces provided at campground. Source: EDAW 2003.

Recreation facilities described in this section include:

- ∉ Bloomer Cove BIC:
- ∉ Bloomer Knoll BIC:
- ∉ Bloomer Point BIC;
- ∉ Bloomer Group BIC;
- ∉ Craig Saddle BIC;
- ∉ Foreman Creek BIC:
- ∉ Goat Ranch BIC; and
- ∉ Floating Campsites.

#### 5.1.2.1 Bloomer Cove Boat-in Campground

Bloomer Cove is located on the North Fork arm of Lake Oroville. There are five individual campsites in this area with tables and fire rings with cooking grills (Table 5.1-2). The site has shade trees, two pit toilets, and six garbage receptacles. Overall, the site was in good condition except maintenance was needed on the pit toilets (Table 6.0-2).

## 5.1.2.2 Bloomer Knoll Boat-in Campground

This camp is adjacent to Bloomer Cove on the North Fork arm of Lake Oroville. There are six individual campsites in this area with tables and fire rings with cooking grills (Table 5.1-2). The site has shade trees, two pit toilets, and four garbage receptacles. Overall, facilities were in good condition, except maintenance was needed on the pit toilets (Table 6.0-2).

#### 5.1.2.3 Bloomer Point Boat-in Campground

This campground is adjacent to Bloomer Cove on the North Fork arm of Lake Oroville. There are 25 individual campsites in this area with tables and fire rings with cooking grills (Table 5.1-2). The site has shade trees, two vault toilets and two pit toilets, 14 garbage receptacles, and a self-registration pay station. Overall, facilities were in good condition (Table 6.0-1).

#### 5.1.2.4 Bloomer Group Boat-in Campground

This camp is adjacent to Bloomer Cove on the North Fork arm of Lake Oroville. There is one group campsite with a 75-person capacity. There are also several shared group barbecue cooking grills (Table 5.1-2). The site has shade trees, two pit toilets, and nine garbage receptacles. Overall, facilities were in good condition, with maintenance needed on the restrooms (Table 6.0-2).

## 5.1.2.5 Craig Saddle Boat-in Campground

This campground is located between the Middle and South arms of Lake Oroville. There are 18 individual campsites in this area with tables and fire rings with cooking

grills (Table 5.1-2). The site has shade trees, two vault toilets and two pit toilets, 19 garbage receptacles, potable water, and a self-registration pay station. Overall, facilities were in good condition (Table 6.0-1).

## 5.1.2.6 Foreman Creek Boat-in Campground

This campground is located at the north side of Lake Oroville. There are 26 individual campsites in this area with tables and fire rings with cooking grills (Table 5.1-2). The site has shade trees, two vault toilets and two pit toilets, 16 garbage receptacles, potable water, a gray water sump, and a self-registration pay station. Overall, facilities were in good condition, with restroom maintenance needed (Table 6.0-2).

	Overnight Use		Не	ealth &	& Safe	ty			Oth	er
Recreation Site	Campsites with table, fire ring & grill	Pit Toilets	Vault Toilets	Chemical Toilets	Potable Water Available	Gray Water Sump	Garbage Receptacles	Shade Trees	Self-registration Pay Station	BBQ Grills
Bloomer Cove BIC	5	2	_	_	_	_	6	Yes	_	_
Bloomer Knoll BIC	6	2	_	_	_	_	4	Yes	_	_
Bloomer Point BIC	25	2	2	_	_	_	14	Yes	1	_
Bloomer Group BIC	10	2	_	_	_	_	9	Yes	_	Unknown number
Craig Saddle BIC	18	2	2	_	Yes		19	Yes	1	_
Foreman Creek BIC	30	2	2	_	Yes	1	16	Yes	1	_
Goat Ranch BIC	6	2	2	_	_		5	Yes	_	_
Floating Campsites	10 <sup>1</sup>	_	_	10	_	_	_	_	_	1 each

Note: The dash indicates that there is no facility or that the category does not apply.

<sup>1</sup>Floating campsites have a table and grill, but no fire ring. They also have a sink, but no potable water.

Source: EDAW 2003.

## 5.1.2.7 Goat Ranch Boat-in Campground

This campground is located on the North Fork arm Lake Oroville between the Bloomer campgrounds, where the West Branch splits off of the North Fork arm. The area has five individual campsites with tables and fire rings with cooking grills (Table 5.1-2). The site has shade trees, two vault toilets and two pit toilets, and five garbage receptacles. Overall, facilities were in good condition with maintenance (Table 6.0-1).

#### 5.1.2.8 Floating Campsites

Lake Oroville has 10 floating campsites (Table 5.1-2). The floating campsites are anchored in different areas of the reservoir, such as at the Potter Ravine area. Each is a two-story structure that can accommodate up to 15 people, with living space and

amenities such as a gas cooking grill, camp table, sink, restroom, shelves, storage room, cabinets, and a sleeping area. The user must bring potable water, although sink water is provided (DPR 2000a). Floating campsites developed to this degree are apparently not available anywhere else in the West. All of the floating campsites were in good condition (Table 6.0-1).

## 5.1.3 Day Use Areas (DUA) and Other Recreation Area Facilities

Recreation facilities discussed in this section include:

- ∉ Lake Oroville Visitors Center;
- ∉ Feather River Fish Hatchery;
- ∉ Oroville Dam;
- ∉ Floating Restrooms;
- ∉ Diversion Pool DUA;
- ∉ Aquatic Center;
- ∉ Clay Pit State Vehicular Recreation Area (SVRA); and
- ∉ Rabe Road Shooting Range.

The following DUAs are not discussed in this section, but with the associated boat ramps (BRs) in Section 5.1.4:

- ∉ Bidwell Canyon DUA;
- ∉ Lime Saddle DUA;
- ∉ Loafer Creek DUA:

- ∉ North Thermalito Forebay DUA;
- ∉ South Thermalito Forebay DUA; and
- ∉ Spillway Boat DUA.

#### 5.1.3.1 Lake Oroville Visitors Center

Located east of Oroville Dam on Kelly Ridge, the 10,000 square-foot, award-winning Lake Oroville Visitors Center features exhibits on the engineering and construction of the hydropower facilities. Interpretive displays explain how Lake Oroville and the associated Project area facilities distribute water and electrical power to their destinations (DWR 2000b). Additionally, there are interpretive displays on the native culture and the natural resources of the area (DPR 2000a). The Visitors Center hosts individual visitors as well as large groups such as K-12 school fieldtrips. In addition to the informational displays inside the Visitors Center, there is a 47-foot viewing tower that provides a panoramic view of Lake Oroville and its surroundings. The Visitors Center is universally accessible and has 18 picnic tables (10 ADA accessible), shade trees and sun shelters, drinking fountains, a gift shop, a telephone, six toilets (all ADA accessible), parking for 90 automobiles, and 17 spaces for either car/trailer combinations or buses (Table 5.1-3). The equestrian trail can be accessed from the Visitors Center. The area was in good condition (Table 6.0-1).

## 5.1.3.2 Feather River Fish Hatchery

Anadromous fish migration up the Feather River is stopped at the fish barrier dam, just downstream from the Thermalito Diversion Pool and Dam. Salmon climb the fish ladder into the Feather River Fish Hatchery where DFG selects fish for breeding.

On the north bank of the Feather River is a park-like visitor area with a landscaped parking lot, restrooms, and an observation platform overlooking the Diversion Dam and its flow over the dam. There is an area with windows into the fish ladder that make it possible to observe fish as they swim up the ladder.

The Feather River Fish Hatchery is accessible to persons with disabilities. The amenities include designated parking areas, restrooms, and wheelchair ramps (Table 5.1-3). The ramps provide access to the viewing platform, viewing window, and the gathering tank at the top of the fish ladder. Windows are provided along the spawning building to allow visitors to watch the spawning process.

On the west side of Table Mountain Boulevard is an additional parking area and pedestrian access to the hatchery complex. Visitor observation areas have been established that provide views of the fish ladder, the gathering and holding tanks, and the interior of the hatchery's spawning building (DWR 2000b). These facilities were in good condition (Table 6.0-1).

## 5.1.3.3 Oroville Dam

Located on the southwest shoreline of the reservoir, the crest of Oroville Dam is used for driving and sightseeing, walking, jogging, bicycling, or rollerblading. Some fishing takes place at the edge and can be participated in at any reservoir level. Oroville Dam is the tallest earthfill dam in the nation with a height of 770 feet (DWR 2000b). At night, lights accent the 6,920-foot-long roadway along the dam's crest.

The Oroville Dam DUA facilities are located on the east and west ends of the dam, all of which are east of the Spillway BR. There are picnic tables on the east and west ends (eight tables total). There are four flush toilets (one ADA accessible) at the east end of the dam (Table 5.1-3). There is one drinking fountain. There are approximately 400 parking spaces across the top of the dam (2 are ADA accessible), but parking here has not been allowed since heightened security was implemented in September 2001. Overall, the facilities were in good condition (Table 6.0-1).

## 5.1.3.4 Floating Restrooms

To preserve water quality and provide convenience for boaters, DPR maintains seven floating restrooms on Lake Oroville (Table 5.1-3). They are strategically stationed around the reservoir and are placed on floating docks where several boats can tie up at

the same time. Each floating restroom has two individual restrooms with vault toilets. All appeared to be in good repair in 2000 and 2003 (Table 6.0-1).

#### 5.1.3.5 Diversion Pool DUA

The Diversion Pool acts as a forebay for the Hyatt Pumping-Generating Plant. Water from the Diversion Pool can be pumped back into Lake Oroville. The Diversion Pool holds a maximum of 13,350 acre-feet and creates about 10 miles of shoreline. The Diversion Pool and shoreline, located below Oroville dam and above Thermalito Diversion Dam, are open for day use activities such as swimming and picnicking (Table 5.1-3). The Diversion Pool DUA is located along Burma Road, which runs on the west side of the Diversion Pool (and partly on the north side). Only non-motorized boats are allowed. The only developed facility at this area is a vault restroom; two shoreline points have been enhanced with gravel to facilitate launching. The site was in good condition (Table 6.0-1).

#### 5.1.3.6 Aquatic Center

The Butte Sailing Club (BSC) operates the Aquatic Center at North Thermalito Forebay (Table 5.1-3). The site is accessed using the same road (Garden Drive) as North Thermalito Forebay. The 1,200-square-foot facility was constructed in 1995 to provide BSC and other area sailing and rowing clubs with a boathouse and an area for holding classes (DWR 2000b). The BSC and other facility users generally access Thermalito Forebay using one of the two 2-lane boat ramps shared with other North Thermalito Forebay users. The site is in good condition (Table 6.0-1).

#### 5.1.3.7 Model Aircraft Flying Area

Model aircraft enthusiasts have use of a 350- by 300-foot runway for take-off and landing near North Wilbur Road at the Afterbay Canal (Table 5.1-3). The site has a paved runway for model aircraft take-offs and landings that was upgraded in 2002, as well as a portable restroom, picnic tables, a barbecue, and two covered (shaded) areas. The site is located off North Wilbur Road, north of SR 162 with access just past the power canal that runs between Thermalito Forebay and Afterbay. Off North Wilbur Road, a gated, gravel road runs for approximately ¼ mile to the Model Aircraft Flying Area. The area can be accessed from the water as well (boats using Thermalito Afterbay can beach at the site). The site is mainly used by the Oroville Model Airplane Club members, with other enthusiasts accessing the site as well. Facilities at the site are in good condition (Table 6.0-1).

Table 5.1-3. Day use area (DUA) and other recreation area facilities.

	1 able 5.1-5.	Day	משמש	ו בם ר	לט	משפ מו כם (בסת) מוום סנווכו ובכובמנוטוו מו כם ומכווונוכם.	מוומכום	anon	מות						
					Day	Day Use			Ĭ	Health &	Safety			Other	er
Recreation Area	Use	Shoreline Scess	Tables	ВВО	Shade Trees	Sun Shelters	Interpretation Displays	Vault Toilets	Portable Toilets	Flush Toilets	Drinking Water	Telephone	Garbage Receptacles	Parking Spaces	Other Facilities
Lake Oroville Visitors Center	Day use trailhead access	No	18 (10 ADA)	I	Yes		Yes	I		6 (all ADA)	Yes	1	9	90 car & 17 car/ trailer	viewing tower, gift shop
Feather River Fish Hatchery	Fish viewing	Yes	1	I	Yes	I	Yes	I	I	2	Yes	1	Yes	100	viewing platform and window
Oroville Dam	Driving, sightseeing, walking, biking	Yes	8	I	I	I	Yes	I	I	4 (1 ADA)	Yes	I	1	20 approx.	I
Floating Restrooms		I	I	I	_	I	ı	14	1	1	I	ı	ı	ı	ı
Diversion Pool DUA	Non-motorized boating, hiking/walking, swimming	Yes	I	I	I	I	I	-	I	I	ı	ı	ı	Road Parking	I
Aquatic Center	Non-motorized boating, storehouse for boats, area for holding classes	Yes	117	I	Yes	I	Yes	I		10 (3 ADA)	Yes	-	Yes	217	Pay Station
Model Aircraft Flying Area	Flying model aircraft	Yes	9	1	I	2	I	I	1	I	I	ı	I	20 approx.	Runway
Clay Pit SVRA	ORV	No	-	I	I	I	I	I	I	I	I	ı	I	20 approx.	I
Rabe Road Shooting Range	Shooting	No	7	I	I	I	I	I	I	I	I	ı	I	20 approx.	I
Motor The dash indicates t	Moter The desh indicates that there is no facility or that the	•	Wage ton sook viocetes	u soci	dang to										

Note: The dash indicates that there is no facility or that the category does not apply. Source: EDAW 2003.

#### 5.1.3.8 Clay Pit State Vehicular Recreation Area

Located adjacent to the OWA, the Clay Pit State Vehicular Recreation Area provides a riding area for OHV enthusiasts (Table 5.1-3). The site is accessed from Larkin Road and is south of SR 162 and the Oroville Municipal Airport. The clay used to build Lake Oroville Dam was taken from this area three miles southwest of Oroville. The resulting depression, a large shallow pit ringed with low hills, is the site of this 220-acre recreation area. It is a motorcycle, all-terrain vehicle (ATV), and dune buggy use area (DPR 2000b). There is a well-marked entrance road that leads to a paved staging area used for loading and unloading off-highway vehicles (OHVs). Aside from the paved staging area and the entrance road, the entire site is one large open dirt area where OHVs (including trucks) can explore. The staging area and road are in good condition (Table 6.0-1).

## 5.1.3.9 Rabe Road Shooting Range

The shooting range, managed by DFG, is an unstaffed public shooting area with unmarked backstops (undefined places to place paper targets) reported to facilitate a range up to 500 yards in distance. It is technically a rifle range, but pistol use commonly occurs there as well. The shooting range is on Rabe Road, directly adjacent to the Clay Pit State Vehicular Recreation Area described above. Seven concrete picnic tables and a pit toilet were installed near the parking lot in spring 2003. There is a small sign that says "public shooting area" on Rabe Road. There are no directional signs on Larkin Road in either direction that notify drivers that the site entrance is approaching (Table 6.0-2). The entrance road is in good condition.

#### 5.1.4 Boat Ramps and Day Use Areas

The following are discussed in this section:

Boat Ramps with Associated Day Use Areas (BR/DUAs);

- ∉ Bidwell Canyon BR/DUA;
- ∉ Lime Saddle BR/DUA:
- ∉ Loafer Creek BR/DUA;
- ∉ North Thermalito Forebay BR/DUA;
- ∉ South Thermalito Forebay BR/DUA; and
- ∉ Spillway BR/DUA.

## Boat Ramps with no DUAs:

- ∉ Enterprise BR;
- ∉ Wilbur Road (Thermalito Afterbay) BR;
- ∉ Dark Canyon Car-top BR;
- ∉ Foreman Creek Car-top BR:
- ∉ Larkin Road (Thermalito Afterbay) Car-top BR;

- ∉ Nelson Bar Car-top BR;
- ∉ Stringtown Car-top BR;
- ∉ Vinton Gulch Car-top BR;
- ∉ Afterbay Outlet BR; and
- ∉ OWA unimproved boat ramps.

#### 5.1.4.1 Bidwell Canyon Boat Ramp and Day Use Area

Located along the southern shore of the reservoir, near the Oroville Dam but to the west, the boat ramp is a popular water-skiing and fishing spot, as well as a home base for boaters (Stienstra 2000). Bidwell Canyon is one of the major attractions in the Project area and is also discussed in Section 5.1.1.1 Bidwell Canyon Campground. There is a visitor information station and fee collection booth, as well as a marina. There are two areas with sun shelters, barbecues, and picnic tables (21 total) at the DUA. The site has drinking water, eight flush toilets (two ADA accessible), a gray water sump, a seven-lane boat ramp, a telephone, and two fish cleaning stations.

The boat ramp was recently extended to 700 feet above msl, providing use of the ramp at lower reservoir levels than previously available. The project was completed in January 2003. There is parking for 451 vehicles (283 car/boat, 168 single car) in the lower lot (Table 5.1-4). The Bidwell Bar Historical Suspension Bridge and Bidwell Bridge Toll House are located adjacent to the boat ramp parking lot. The concessionaire-run marina offers boat rentals, groceries, fishing supplies, a snack bar, 500 berths and 300 mooring anchors, a fuel dock, a pumping station for boat holding tanks, boat storage, trailer facilities with hookups, and a boat ramp (DWR 2000b). All of the Bidwell BR and DUA facilities were in good condition (Table 6.0-1).

Generally, the Bidwell Canyon facilities are available at high, medium, and low lake levels; however, several houseboaters have stated on visitor surveys that they cannot reach the gas pumps (located at the Bidwell Marina) at the lowest reservoir levels experienced in 2002 (EDAW 2002). Some survey respondents also indicated that more bathrooms are needed at Bidwell Marina.

#### 5.1.4.2 Lime Saddle Boat Ramp and Day Use Area

Located on the western shoreline of the West Branch of the North Fork arm of Lake Oroville, the Lime Saddle area is one of the major attractions at the Oroville Facilities. There is a staffed entrance kiosk where information is provided and fees are collected. Adjacent to the entrance kiosk are four single-vehicle parking spaces (one is ADA accessible). There are 13 picnic tables (4 ADA accessible), seven sun shelters, four flush toilets (all ADA accessible), a drinking fountain, a telephone, a four-lane boat ramp, a fish cleaning station, and two garbage dumpsters all on the main parking level at the top of the boat ramp. In the main parking area there are 43 single-vehicle parking spaces (11 are ADA accessible) and 127 car/trailer spaces (seven are ADA accessible). Additionally there is parking above the main level in an overflow lot suited for

approximately 100 car/trailer combination spaces, and another 64 single-vehicle parking spaces are available near the entrance kiosk (Table 5.1-4).

The boat ramp was recently extended to 702 feet above msl (Feazel, DPR 2003), providing use of the ramp at lower reservoir levels than previously available. The project was completed in January 2003. The facilities are also available at medium and high lake levels. All of the Lime Saddle BR and DUA facilities were in good condition.

There is a concessionaire-run full-service marina that offers gas, a boat repair and supply shop, a general store with bait and tackle, and a pump-out station. The marina also offers rentals for houseboats, patio boats, fishing boats, and ski boats. Also available are short- and long-term overnight moorage, docks, and covered and open slips. The facilities were in good condition in 2000. However, in December 2002 the marina was severely damaged by a storm that left the concessionaire-run marina in disrepair (Table 6.0-2). As of August 2003, Lime Saddle Marina was still being repaired and was not fully functional. The marina concessionaire contract with DPR is up for bid, construction may not be completed until a contract is signed with a concessionaire. The concessionaire is responsible for any needed repairs to the marina facilities.

#### 5.1.4.3 Loafer Creek Boat Ramp and Day Use Area

The boat ramp shares the same visitor information and fee collection booth as the other Loafer Creek attractions (also see Section 5.1.1). There is an eight lane boat ramp and a large parking area for 178 car/trailer combinations (Table 5.1-4). All eight lanes of the boat ramp are accessible to 800 feet above msl. Two lanes are available as low as 775 above msl but not below. Some of the other ramps on Lake Oroville can be used at reservoir levels as low as 695 feet above msl. There are two ADA-accessible flush toilets and a telephone.

Adjacent to the other Loafer Creek facilities (see Section 5.1.1), the DUA offers opportunities for swimming, picnicking, and fishing. There are 80 picnic tables (some ADA accessible), barbecues (including several large group grills), shade trees, a swimming area with a beach, a playground area, eight flush toilets (all ADA accessible), drinking fountains, showers, and parking for 251 vehicles, five of which are ADA-accessible spaces (Table 5.1-4). Overall, all of the Loafer Creek BR and DUA facilities were in good condition (Table 6.0-1).

#### 5.1.4.4 Monument Hill Boat Ramp and Day Use Area

With 17 miles of shoreline and 4,300 surface acres of water, the Thermalito Afterbay is open for boating, swimming, fishing, picnicking, and limited hunting (DWR 2000b). The surface and shoreline are within the OWA, but recreation facilities and boat ramps are managed by DWR.

A two-lane boat ramp with floating dock is available at the Monument Hill site on the eastern shoreline of the Afterbay. There are 10 picnic tables, nine barbecues, four flush

toilets (one appears to be ADA accessible but is not signed as such), a fish cleaning station and a swimming beach. There are 10 single-vehicle parking spaces (one is ADA accessible) and 39 car/trailer combination spaces (three are ADA accessible) (Table 5.1-4). Additionally, there is a graded and graveled parking area approximately 60 by 60 yards in area. The facilities were in good condition (Table 6.0-1).

#### 5.1.4.5 North Thermalito Forebay Boat Ramp and Day Use Area

The North Thermalito Forebay covers 300 surface acres of the entire 630-acre Thermalito Forebay and hosts non-motorized boating and other recreational activities (DWR 2000b). There is a staffed visitor information and fee collection booth. North Thermalito Forebay BR/DUA has two paved boat ramps, one with two lanes and one with three lanes (Table 5.1-4). There are six flush toilets (two are ADA accessible) and 59 single-vehicle parking spaces (three are ADA accessible). The site also has 25 car/trailer parking spaces (one is ADA accessible). There is also an unpaved overflow lot (approximately 40 feet by 40 feet). Additionally, the DUA has a swimming beach, a large picnic area with 117 tables, shared barbecue grills, shade trees, drinking faucets, and a telephone. There are six picnic tables adjacent to the sites. The area was in good condition aside from the lack of information in the existing interpretive display (Table 6.0-2). The interpretive displays have been relocated and are waiting for new panels that have been ordered (Feazel DPR 2003).

## 5.1.4.6 South Thermalito Forebay Boat Ramp and Day Use Area

Located at the southern end of the Forebay, this recreational site has a self-registration pay station, a two-lane boat ramp, 10 picnic tables, 10 barbecues, shade trees, one portable toilet (non-ADA), and a fish cleaning station. There is a graded and graveled parking area approximately 60 by 60 yards near the boat ramp and an undetermined number of parking spaces near the picnic tables (Table 5.1-4).

Power boating, limited to about 330 acres of the Thermalito Forebay's 630-acre pool, and fishing are the Forebay's main recreation uses (DWR 2000b). Shoreline swimming also takes place at this DUA. With the exception of one of the interpretive displays lacking any interpretive information (Table 6.0-2), the facilities were in good condition. The interpretive displays have been relocated and are waiting for new panels that have been ordered. A new vault toilet was installed in 2003 (Feazel DPR 2003).

## 5.1.4.7 Spillway Boat Ramp and Day Use Area

This is the largest boat ramp facility at Lake Oroville, adjacent to the right abutment of Oroville Dam. Development here consists of two sets of multi-lane boat ramps. One of the ramps has eight lanes and can be used during low to medium water, levels while the other has 12 lanes and can be used during medium to high water. The eight lane ramp is separate from the 12 lane ramp and has its own accompanying parking lot. During high water, both the lower eight lane ramp and its parking lot are submerged.

Table 5.1-4. Boat ramps and day use areas.

		Overflow Parking	Yes	Yes/100 car/ trailer spaces	I	Yes	Yes	I	1	
	Parking	Car/trailer parking spaces	283	127 (7 ADA)	429 (5 ADA)	39 (3 ADA)	25 (1 ADA)	n	I	
		Car Parking Spaces	168	111 (12 ADA)	I	10 (1 ADA)	251 (3 ADA)	n	895 Upper; 200 Lower	
		Оťћег	1 Gray Water Sump	I	2 showers	I	I	I	I	
		Garbage Receptacles	20	11	3	8	18	6	7	
	Safety	Telephone	_	1	1	I	1	I	I	Ì
	Health and Safety	Drinking Water	Yes	Yes	Yes	ı	Yes	I	Yes	Ì
se areas	Healt	StelioT nsulR	8 (2 ADA)	4 (all ADA)	10 (all ADA)	4	6 (4 ADA)		6 (2 ADA)	
a aay us		Portable Toilets	I	I	I	ı	7 (1 ADA)	1	I	
s an		noitst2 gninsəl3 dzi7	2	1	I	_	I	1	_	Ì
boat ramps and day use areas.		Оѓћег	Bidwell Bar Historical Bridge	I	1 Playground; 1 Swim Area w/ Beach	I	1 Swim Area w/ Beach		1	Ī
<b>-</b> 4.	/ Use	Shade Trees	Yes	Yes	Yes	ı	Yes	Yes	Yes	Ì
able 5.1	Day	Sun Shelters	2	7	I	ı	I	I	I	t annly
lar		BBQ Grills	⊃	I	n	ი	n	10	I	on secon
		səldsT oinoi¶	21	13 (4 ADA)	80	10	117	10	5	vionates ar
	Boating	Other Facilities	1 Floating Dock	1 Marina	l	1 Floating Dock	2 Floating Dock	I	I	acility or that ti
	Bo.	(Useable Lake Levels)	7-H; 5-M; 9-L	4-M to H; 5-L	8-M to H; 2-L	2	2 ramps, 1 with 2 lanes, 1 with 3 lanes	2	12-M to H; 8-L to M; 2-L	there is no f
	'n	Pay Station (self-registration or staffed booth)	_	_	~		~	1	-	ted set
		Recreation Area	Bidwell Canyon BR & DUA	Lime Saddle BR & DUA	Loafer Creek BR & DUA	Monument Hill BR & DUA	North Thermalito Forebay BR & DUA	South Thermalito Forebay BR & DUA	Spillway BR & DUA	Note: The dash indicates that there is no facility or that the category does not apply

Note: The dash indicates that there is no facility or that the category does not apply.

U = Unknown; L = Low; M = Medium; H = High, high reservoir levels are defined as those above 850 feet above msl. Medium reservoir levels are those that fall below 800 feet above msl. These divisions are based on historic pool levels (DWR CDEC 2003).

Source: EDAW 2003.

Proposed Final Report – For Distribution to Collaborative

Oroville Facilities Relicensing Team

The lower eight lane boat ramp was recently extended to 700 feet above msl, providing use of the ramp at lower reservoir levels than previously accessible. The project was completed in January 2003.

The site has a seasonally staffed visitor information and fee collection booth. The site has six flush toilets (two ADA accessible), drinking water, a fish cleaning station, and picnic sites (five tables) with shade trees (Table 5.1-4). The upper lot has 895 car/trailer parking spaces, 40 of which have been set aside for "en route" (self-contained) RV camping (see Section 5.1.1.9). The lower lot can accommodate 200 vehicles (car/trailers). The shoreline access allows for fishing at all reservoir levels. The facilities were in good condition (Table 6.0-1).

#### 5.1.4.8 Afterbay Outlet Boat Ramp

The Afterbay Outlet Boat Ramp is located upstream, northeast, of the Afterbay Outlet on the Feather River within the OWA boundary. There is no designated parking area, however roadside parking can accommodate approximately five vehicles. There are no facilities such as restrooms or garbage receptacles at the boat ramp. The ramp is a gravel/dirt ramp that can be used to launch boats using a trailer. The ramp can become very muddy after rains and is then only usable by four wheel drive vehicles. Other types of vehicles that launch at the ramp can have difficulty exiting the ramp. The Afterbay Outlet Boat Ramp is scheduled to be improved including paving in the next year. This will allow more types of vehicles to launch at the Outlet.

#### 5.1.4.9 Enterprise Boat Ramp

The Enterprise Boat Ramp is located on the South Fork arm of Lake Oroville. It has a two-lane boat ramp that is only used during medium and high reservoir levels (the end of the ramp is at approximately 830 feet above msl). When the reservoir is below 830 feet above msl, the site closes completely to protect cultural resources. Fishing and swimming also take place along the shore of this site. There are 40 car/trailer parking spaces. There is a vault toilet available and three garbage receptacles at the site (Table 5.1-5). With the exception of the garbage receptacles needing some maintenance (Table 6.0-2), the site was in good condition. The restroom that needed maintenance was replaced in 2003 (Walters DPR 2003).

#### 5.1.4.10 OWA Unimproved Boat Ramps

There are several unimproved boat ramps within the OWA, including ramps located along the Feather River near the OWA Vance Avenue and Palm Avenue entrances. These ramps are unpaved gravel put-ins that users have expanded to use as boat ramps. Both car-top and trailer launching occurs at many of these ramps. There are no facilities or parking associated with any of the ramps. There are no current plans to improve any of these boat ramps.

## 5.1.4.11 Wilbur Road (Thermalito Afterbay) Boat Ramp

The Wilbur Road boat ramp consists of a two-lane paved boat ramp, a parking lot able to accommodate 14 car/trailer combination spaces (one is ADA-accessible space), and one non-ADA portable toilet (Table 5.1-5). In addition to the designated boat ramp, there are several boat launching areas that are not graded or graveled between this site and SR 162. These informal boat launching areas are often accessed with trailers, yet some are only suited for car-top launching. With the exception of the garbage receptacles in need of some replacement (Table 6.0-2), the area was in good condition.

## 5.1.4.12 Dark Canyon Car-Top Boat Ramp

Dark Canyon Car-top Boat Ramp is located on the West Branch of the North Fork arm of Lake Oroville. The single-lane boat ramp is used at low to medium reservoir levels. There is a paved parking lot (approximately 20 by 20 yards and will fit approximately 15-30 vehicles). There are three pull-out areas between the parking lot and the end of the boat ramp, which is helpful because the road is narrow. There is one vault toilet and three garbage receptacles (Table 5.1-5). The ramp pavement is in good condition. There is no directional sign on SR 70 nor at several junctures between SR 70 and the entrance to the site (e.g., Big Bend Road and Dark Canyon Road), making it difficult for visitors to find. With the exception of the garbage receptacles needing some maintenance (Table 6.0-2), the site is in good condition.

## 5.1.4.13 Foreman Creek Car-Top Boat Ramp

Foreman Creek Car-top Boat Ramp is located on the north side of the main body of Lake Oroville. The two-lane boat ramp can be used at all reservoir levels. Boating, fishing, and swimming all take place at this site. When reservoir levels fall below 830 feet above msl, the site is closed at night and additional security is present during the day to protect cultural resources. Roped off parking areas accommodate approximately 15-30 vehicles. At high reservoir elevations there is only roadside parking, which will accommodate approximately seven vehicles. There are no restrooms. There is one garbage receptacle (Table 5.1-5) in need of maintenance (Table 6.0-2). Otherwise, the site was in good condition.

## 5.1.4.14 Larkin Road (Thermalito Afterbay) Car-Top Boat Ramp

The Larkin Road boat ramp has a graded and graveled car-top boat ramp, a paved lot (approximately 50 yards by 50 yards which will fit approximately 30-50 vehicles), a single ADA-accessible vault toilet, and a garbage dumpster (Table 5.1-5). In addition to the designated launching area, there are four often-used launching ramps that are not graded or graveled. One of them is just south of the designated launching ramp, and three are just north of the main facilities. There are dirt roads that lead to all four of these informal but regularly used launching areas. The area was in good condition (Table 6.0-1).

#### 5.1.4.15 Nelson Bar Car-Top Boat Ramp

Nelson Bar Car-top Boat Ramp is located on the West Branch of the North Fork arm of Lake Oroville. The shoulder of the lower section of the boat ramp, below the improved cement surface, is passable only on foot due to rough surface, requiring users to carry boats further than would be necessary if pavement was in good condition. Therefore the ramp can only be used at high reservoir levels. The site has a gravel parking lot (approximately 60 by 60 yards and will accommodate approximately 30-50 vehicles) at elevation 894 feet above msl. There are three pull-out areas between the parking lot and the end of the boat ramp, which is helpful because the road is narrow. There is one vault toilet (not ADA accessible) and two garbage receptacles (Table 5.1-5). Aside from the ramp being accessible only on foot at low water (Table 6.0-2), the site was in good condition.

## 5.1.4.16 Stringtown Car-Top Boat Ramp

Stringtown Car-top Boat Ramp is located on the South Fork arm of Lake Oroville. The boat ramp can be used at all reservoir levels. There is space to park approximately six vehicles near the end of the boat ramp and various other spillover-parking areas. Visitors also fish and swim at this site. There is a vault toilet (non-ADA accessible) and one garbage receptacle (Table 5.1-5). Below the upper concrete boat ramp, the lower part of the boat ramp, a former county road, is used as a launch ramp at lower reservoir levels. The shoulder of the pavement below the concrete upper portion is in poor condition, making for rough launching (see photo in Appendix B).

There is no directional sign on Forbestown Road, making it difficult for visitors to locate the site; the first directional sign is at Hurleton Road. The site is in need of extensive pavement maintenance and directional signs at Forbestown Road and possibly additional locations at other intersections. Garbage facilities are also in need of some maintenance (Table 6.0-2).

## 5.1.4.17 Vinton Gulch Car-Top Boat Ramp

Vinton Gulch Car-top Boat Ramp is located on the West Branch of the North Fork arm of Lake Oroville. The single-lane boat ramp is not used at low or medium reservoir levels. In addition to boat launching, shoreline fishing also takes place at Vinton Gulch. There is no designated parking area, however roadside parking can accommodate approximately 10 vehicles. The site has one vault toilet (not ADA accessible) and two garbage receptacles (Table 5.1-5).

There is no directional sign on SR 70; the first directional sign is on Cherokee Road right at Vinton Gulch Road. It is visible, but it would better serve visitors if signs were posted in both directions a bit farther away from Vinton Gulch Road. This improvement would give visitors time to make the turn onto Vinton Gulch Road to more safely approach the site. Aside from the need for directional signs on SR 70 and improved signs on Cherokee Road (Table 6.0-2), the site was in good condition.

Table 5.1-5. Boat ramp facilities not associated with a DUA.

	U	se	Boating	Hea	lth & Sa	afety	Parking
Recreation Area	Activities	Lake level when Boat Ramp is available	Lanes on Boat Ramp	Portable Toilet	Vault Toilet	Garbage Receptacles	Car/Trailer Parking Spaces
Afterbay Outlet BR	Boating	NA <sup>1</sup>	1	_	_	_	no designated parking: approx. 5
Enterprise BR	Boating	Medium to High	2	_	1	3	40
OWA Unimproved BRs	Boating	NA <sup>1</sup>	1		_		no designated parking: number varies depending on location
Wilbur Road (Thermalito Afterbay) BR	Day Use Boating	NA <sup>1</sup>	2	1	_	1	14 (1 ADA)
Dark Canyon Car-top BR	Car-Top Boating	Low to Medium	2	_	1	3	Undefined: approx. 15-30
Foreman Creek Car-top BR	Car-Top Boating	Low to High	2		_	1	Undefined: approx. 15-30 at low levels, approx. 7 at high levels
Larkin Road (Thermalito Afterbay) Car-top BR	Boating	NA <sup>1</sup>		_	1 (ADA)	1	Undefined: approx. 30-50
Nelson Bar Car-top BR	Car-Top Boating	High	_	_	1	2	Undefined: approx. 30-50
Stringtown Car-top BR	Car-Top Boating	Low to High	_	_	1	1	Undefined: approx. 6
Vinton Gulch Car-top BR	Car-Top Boating	High	1	_	1	2	no designated parking: approx. 10

Note: The dash indicates that there is no facility or that the category does not apply. Undefined means there is a designated parking area, but parking spaces are not delineated. No designated parking means there is roadside parking only.

Not applicable. Water levels below the dam do not generally vary in a way that offers shoreline access.

Source: EDAW 2003.

## 5.1.5 Trailheads and Trails

The trail system in the study area provides many miles of trails for a variety of uses including mountain biking, horseback riding, and hiking (McBride DPR 2003). Several trails have been upgraded to meet ADA accessibility standards for slope and surface. Including the Potter Ravine Trail, there will be a total of 12 miles of ADA-accessible trail within the study area. Table 5.1-6 lists each of the trailhead access sites and the trails providing miles of trail, allowable uses (when known), number of parking spots, number of restrooms, and garbage receptacles. Appendix C provides DWR maps of the trails discussed in this report with the exception of the Lime Saddle Trail and the Feather Falls Trail.

The nearby Plumas National Forest provides many opportunities for hiking, mountain biking, and equestrian uses. The Feather Falls Trail, although just outside of the study area, is included because of its relationship to the reservoir and to recreation in the

Project area. The Pacific Crest Trail is not discussed in detail but crosses the Middle Fork Feather River (MFFR) approximately 25 miles northeast of Lake Oroville.

DPR has implemented trail planning in the State over the last 70 years. DPR houses a Statewide Trails Office that implements the mission and goals created by DPR for trails in the State. DWR and DPR share the management responsibility for trails within the LOSRA.

Facilities at most of the trailheads consist of nothing more than roadside parking, trail access and the trails themselves. Condition status of trails and trailhead accesses were not included in condition inventory field work but were obtained from DPR. Condition, when known for trailheads and trails, is included. Of the trailhead access sites that have sanitary, and picnic facilities, those facilities were in good condition.

## **Trailhead Access Sites**

## 5.1.5.1 East Hamilton Trailhead Access, Thermalito Afterbay/OWA

East Hamilton Trail Access connects to the Brad P. Freeman Trail. There is a small gravel parking area that fits approximately five cars (Table 5.1-6). There is a picnic table in good condition.

#### 5.1.5.2 Toland Road Trailhead Access

OWA trails can be accessed from Toland Road. This trailhead is gated with roadside parking only. There are no developed facilities at this site (Table 5.1-6).

#### 5.1.5.3 Tres Vias Road Trailhead Access

The Tres Vias Road Trailhead Access also connects to the Brad P. Freeman Trail. This trail access area consists of a dirt lot and dirt road/trail at the Thermalito Afterbay. There are no developed facilities such as restrooms or picnic tables at this site (Table 5.1-6).

#### 5.1.5.4 Lakeland Boulevard Trailhead Access

The Lakeland Boulevard Trailhead Access is located east of Diversion Pool, near the Diversion Dam and upstream from the low flow section of the Feather River. The site is unpaved and provides parking for trail access that is commonly used by equestrians (Table 5.1-6). There is no shoreline developed access at the site. The gate to the site is locked from sunset to dawn. DWR has requested from Union Pacific Railroad to purchase or obtain an easement for a small piece of land adjacent to the trailhead access to help develop vehicular shoreline access.

Table 5.1-6. Trailhead access facilities and trails.

		Use	Access	Health 8	& Safety
Trail Facility	Miles of Trail	Allowable uses	Number of Car/Trailer Parking Spaces	Number of Toilets	Number of Garbage Receptacles
Tra	ilhead Ac	cess Sites			
East Hamilton Rd Trailhead Access to Brad P. Freeman Trail	-	-	Approx 5	0	0
Toland Road Trailhead Access	-	-	Undesignated parking	0	0
Tres Vias Rd Trailhead Access to Brad P. Freeman Trail	-	-	Undesignated parking	0	0
Lakeland Blvd Trailhead Access	-	-	Undesignated parking	0	0
Saddle Dam Trailhead Access to Dan Beebe Trail	-	-	40	1	1
	Trai	ls			
Beckwourth Trail	Approx 100	Multi-use <sup>9</sup>	-	-	-
Bidwell Canyon Trail	4.9	Multi-use	451 <sup>1</sup>	21	3 1
Brad P. Freeman Trail	41.0	Multi-use	Various	-	-
Chaparral Interpretive Trail	0.2	Pedestrian	107 <sup>2</sup>	2 <sup>2</sup>	6 <sup>2</sup>
Dan Beebe Trail	14.3	Multi-use <sup>3</sup>	Various	-	-
Feather Falls Trail	4.5	Multi-use	Approx 50	1	1
Kelly Ridge Trail	4.9	Multi-use	107 <sup>2</sup> /451 <sup>1</sup>	2 <sup>1</sup>	3 <sup>1</sup>
Lime Saddle Trail	3.8	Hiking Only	334 <sup>4</sup>	44	11 <sup>4</sup>
Loafer Creek Day Use/Campground Trail	1.7	Hiking Only	429 <sup>5</sup>	2 <sup>5</sup>	2 <sup>5</sup>
Loafer Creek Loop Trail	3.2	Multi-use <sup>6</sup>	429 <sup>7</sup>	1 <sup>7</sup>	11 <sup>7</sup>
OWA	Unknown	Multi-use	Various	Unknown	Unknown
Potter Ravine Trail	5.5	Multi-use	1095 <sup>8</sup>	2 <sup>8</sup>	1 <sup>8</sup>
Roy Rogers Trail	4.0	Multi-use <sup>6</sup>	429 <sup>5</sup>	2 <sup>5</sup>	2 <sup>5</sup>
Wyk Island Trail	0.2	Hiking Only	451 <sup>1</sup>	4 <sup>1</sup>	3 <sup>1</sup>

Note: The dash indicates that there is no facility or that the category does not apply.

Source: McBride DPR 2003.

<sup>&</sup>lt;sup>1</sup>In the Bidwell Canyon area.

<sup>&</sup>lt;sup>2</sup>At the Lake Oroville Visitors Center.
<sup>3</sup> Sycamore Hill section: equestrian and hikers only.
<sup>4</sup>In the Lime Saddle Area

<sup>&</sup>lt;sup>5</sup> In the Loafer Creek area.

Even numbered days: shared use; odd-numbered days: equestrian and hikers.

<sup>&</sup>lt;sup>7</sup>In the northern Loafer Creek area.

<sup>&</sup>lt;sup>8</sup>At the Spillway area.

<sup>&</sup>lt;sup>9</sup>Mulituse sections of the trail are outside of the Project area.

#### 5.1.5.5 Saddle Dam Trailhead Access

The Saddle Dam Trailhead provides access to the Dan Beebe Trail. Located on the southeast side of Kelly Ridge, the Saddle Dam Trailhead is a recently graded and graveled parking area able to accommodate approximately 40 car/trailer combinations (Table 5.1-6). The parking area provides access to the reservoir's shoreline during high water or a place to off-load horses and access the equestrian trail. There is a portable toilet (not ADA accessible) at the site and a garbage receptacle (Table 5.1-6). The facilities were in good condition (Table 6.0-1).

#### **Trails**

#### 5.1.5.6 Beckwourth Trail

The Beckwourth Trail is part of the California Trail system of wagon roads and pack trails that led emigrants west in the late 1800s. The Beckwourth Trail runs approximately 100 miles from Reno to Lake Oroville ending near Foreman Creek and is multiple use. The trail ran to the portion of Bidwell's Bar which now lies under Lake Oroville. (Table 5.1-6). The Oroville-Quincy Highway (which is gravel road for a stretch) follows the route of the Beckwourth Trail fairly closely. None of the original trail coincides with current designated trails near Lake Oroville.

## 5.1.5.7 Bidwell Canyon Trail

The 4.9 mile, multi-use Bidwell Canyon Trail can be accessed from the Bidwell Canyon Boat Ramp parking area with 451 spaces (Table 5.1-6). The Bidwell Canyon Trail (managed by DPR) meets ADA accessibility requirements. The trail is considered to be in a foothill setting and to provide a rural experience. It is a multi-use trail in good condition.

#### 5.1.5.8 Brad P. Freeman Trail

The Brad P. Freeman Trail provides 41 miles of scenic off-road recreation, primarily for all-terrain bikes (Table 5.1-6). The trail circles the North and South Thermalito Forebays, Thermalito Afterbay, the Diversion Pool and the crest of Oroville Dam. About 30 miles of trail are flat but include some rolling terrain. Steep grades can be found on either side of the dam within a few miles of Lake Oroville. Although the trail is designated multi-use, the trail is primarily used for mountain biking, downhill, and cross-country races (DWR 2000b). The trail is in good condition but is not ADA accessible (Table 6.0-1).

#### 5.1.5.9 Chaparral Interpretive Trail

The Chaparral Interpretive Trail can be accessed from the Lake Oroville Visitors Center. A portion (0.20 mile) of the Chaparral Interpretive Trail was selected by DPR to be made ADA accessible. The project will include paving the remainder of the trail and installing interpretive signage. The work is planned for the future and has not yet been

scheduled for construction. The Visitors Center has 107 parking spaces, restrooms, and garbage receptacles (Table 5.1-6). The trail is in good condition.

#### 5.1.5.10 Dan Beebe Trail

The Dan Beebe Trail is a 14.3-mile loop trail that rises from an elevation of 200 to 1,000 feet above msl (DWR 2000b) (Table 5.1-6). The trail can be accessed at the Loafer Creek Horse Campground or near the dam off of Oro-Dam Boulevard. Joggers and hikers also use the trail. Much of the trail winds above the reservoir and provides scenic vistas and an opportunity to access undeveloped areas. The vast majority of the trail is not paved, making it ideal for joggers seeking a softer surface on which to run. The trail appears to be in good condition (Table 6.0-1).

#### 5.1.5.11 Feather Falls Trail

The Feather Falls is located on the Fall River, which runs into the MFFR less than a mile from the northeast corner of Lake Oroville. The Feather Falls is the nation's sixth highest waterfall at 640 feet. The Feather Falls Trail is located within the Feather Falls Scenic Area in the Plumas National Forest. The trailhead, providing restrooms, camping, and parking, is a 35-mile drive from the city of Oroville. The trail is 4.5 miles long requiring a round trip of nine miles for visitors who go to the Feather Falls and back (Table 5.1-6).

## 5.1.5.12 Kelly Ridge Trail

The Kelly Ridge Trail is 4.9 miles that parallel the Dan Beebe Trail. The trail can be accessed from the Lake Oroville Visitors Center or from the Bidwell Canyon DUA parking. The use designation on this trail is multi-use. There are 107 parking spaces at the Visitors Center and 451 parking spaces at Bidwell Canyon. There are restrooms and garbage receptacles at the various take-off points (Table 5.1-6).

#### 5.1.5.13 Lime Saddle Trail

The Lime Saddle Trail is a 3.8-mile loop and can be accessed from the Lime Saddle DUA. Although the construction of this trail is incomplete, it will have a hiking-only designation. There are 334 parking spaces at Lime Saddle with restrooms and garbage receptacles at the DUA (Table 5.1-6).

## 5.1.5.14 Loafer Creek Day Use/Campground Trail

The Loafer Creek Day Use/Campground Trail is 1.7 miles in length. The first 1.23 miles of the Loafer Creek Day Use/Campground Trail (managed by DPR) meets ADA accessibility requirements (Table 5.1-6). The use designation on this trail is hiking-only. The trail is considered to be in a foothill setting and to provide a rural experience. The

Loafer Creek area provides parking for 429 vehicles. There are restrooms and garbage receptacles at the DUA, campground, and boat ramp.

## 5.1.5.15 Loafer Creek Loop Trail

The Loafer Creek Loop Trail is a 3.2-mile trail allowing for multi-use. The trail may be used for any type of activity on even-numbered calendar days. Use is limited to horseback riding and hiking on odd-numbered calendar days. The first 0.23 mile of the Loafer Creek Loop Trail (managed by DPR) meets ADA accessibility requirements (Table 5.1-6). The trail is considered to be in a foothill setting and to provide a rural experience. The Loafer Creek area provides parking for 429 vehicles. There are restrooms and garbage receptacles at the DUA.

#### 5.1.5.16 Oroville Wildlife Area

The OWA provides many trails for multiple uses. The trails are not highly maintained and none are ADA accessible. The Feather River runs through the center of the area and has cut its own channels. The area is also used as a floodplain for emergency releases from Oroville Dam, making the topography very uneven with cutbanks and washes. There are three main unpaved boat launching sites, one at One-mile Pond, and two along the main roads where people can walk to the river. Parking is undesignated. There are several portable restrooms within the OWA in various locations (Table 5.1-6).

#### 5.1.5.17 Potter Ravine Trail

The Potter Ravine Trail is currently under construction and expected to be completed by FY 03/04. This multi-use trail is estimated to be 5.5 miles once completed and will be accessed from the Spillway DUA, located on the north side of Oroville Dam. Spillway has restrooms and over 1,000 parking spaces (Table 5.1-6). Approximately half of the spaces are under water when the reservoir is full.

#### 5.1.5.18 Roy Rogers Trail

The four-mile Roy Rogers Trail can be accessed from the Loafer Creek Facilities including from the campground, horse camp, boat ramp parking, and DUA. The trail is not ADA accessible but is in good condition (Table 6.0-1). The Loafer Creek area provides parking for 429 vehicles. There are restrooms and garbage receptacles at the DUA, campground and boat ramp (Table 5.1-6).

## 5.1.5.19 Wyk Island Trail

The Wyk Island Trail can be accessed from the Bidwell Canyon Boat Ramp parking. The 0.19 mile of trail (managed by DPR) meets ADA accessibility requirements (Table 5.1-6). The use designation on this trail is hiking-only. The trail is considered to be in a

foothill setting and to provide a rural experience. There are 451 parking spaces, restrooms, and garbage receptacles at the Bidwell Canyon BR.

## 5.2 FEDERAL WILD AND SCENIC RIVERS, NATIONAL RECREATION TRAILS, AND PLANNED PROJECTS

There are no designated wild and scenic rivers or national recreation trails within the project area. One nationally designated river (MFFR) and one nationally designated trail (Pacific Crest Trail) are located near the Project area.

## 5.2.1 Federal Wild and Scenic Rivers (WSRs)

Congress created the National WSRs System in 1968. The Wild and Scenic Rivers Act is intended to preserve selected rivers or sections thereof in their free-flowing condition to balance environmental, recreational, cultural, and historical values with dams, diversions, and water resource development projects. As of November 2001, 180 river segments comprising 11,292 miles have been included in the National WSRs System. While the goal of the legislation is to preserve the character of a river, uses compatible with the management goals of a particular river, including camping, fishing, hiking, and other recreational activities and facilities, are allowed. Any designated WSR is classified and administered in one of three categories depending on the extent of development and accessibility along each section. Designated river segments are classified and administered as one of the following: wild river areas, scenic river areas, or recreational river areas.

The MFFR was designated a WSR in 1968. The MFFR WSR is currently administered by Plumas National Forest and runs from its headwaters near Beckwourth, to Lake Oroville. It is located outside of the Project study area. The designated reach totals 77.6 miles, including 32.9 miles of wild river area, 9.7 miles of scenic river area, and 35 miles of recreational river area. The MFFR flows through a deep canyon with numerous large boulders, narrow steep canyon walls, and some impassable waterfalls. Rafting and kayaking opportunities are considered to be for experts only (Class V). The upper stretches of the river, however, are gentler with easy access, providing opportunities for rafting and canoeing.

## 5.2.2 National Recreation Trails

The National Trail System Act of 1968 authorized the creation of a system comprised of National Recreation Trails, National Scenic Trails, and National Historic Trails.

While National Scenic Trails and National Historic Trails may only be designated by an act of Congress, National Recreation Trails may be designated by the Secretary of the Interior or the Secretary of Agriculture to recognize exemplary trails of local and regional significance in response to an application from the trail's managing agency or organization (American Trails undated). Through designation, these trails are recognized as part of America's national system of trails. National Recreation Trails are

jointly administered by the National Park Service (NPS) and U.S. Forest Service, with support from a variety of federal agencies and non-profit organizations.

The Pacific Crest Trail (PCT) is one of eight National Scenic Trails in the United States, spanning some 2,650 miles from Mexico to Canada through three western states. The route was first explored in the late 1930s by teams of young men from the YMCA. Once proven feasible, trail pioneers Clinton Clarke and Warren Rogers lobbied the federal government to secure a border-to-border trail corridor. Largely through the efforts of hikers and equestrians, the PCT was eventually designated one of the first scenic trails in the National Trails System, was authorized by Congress in 1968, and was dedicated in 1993. The PCT runs generally in a north-south direction east of the Project area, crossing the MFFR and then SR 70 near the town of Belden approximately 40 miles northeast of the Project area.

## 5.2.3 Planned and Recently Completed Projects

While there are no major projects planned within the Project area, several interim projects have recently been implemented under the current Oroville Facilities License. Several other projects are being implemented. ADA upgrades are discussed in R6 ADA Accessibility Assessment.

Completed interim projects include:

- ∉ Road improvements to the equestrian camp;
- ∉ Road improvements to the Saddle Dam Trailhead; and
- ∉ New picnic tables and road improvements to the Rabe Road Shooting Range.

Additional interim planned projects include improvements to:

- ∉ Enterprise BR restroom installation/upgrades.

Several maintenance issues have been resolved since the field work for this study was done. Numbers and posts that were broken in 2002 have been replaced at BICs, along with tables and barbeques at Goat Ranch, Foreman Creek and Bloomer BICs. The self-pay registration stations that were causing some issues at Craig Saddle and Bloomer BICs were removed. The drinking fountains and gray water sump issues were resolved at Foreman Creek BIC by removing the water tank. Restroom issues at Bloomer Point BIC were resolved by rebuilding the portable toilets. A new vault toilet was installed at South Thermalito Forebay DUA. Interpretive displays were relocated and are waiting for new panels at the South and North Thermalito Forebay DUAs. Finally, the restroom in need of maintenance at Enterprise BR was replaced and a new vault toilet was installed at South Thermalito Forebay (Feazel DPR 2003).

Recent maintenance projects include:

∉ Replacement of numbers and posts at BICs;

- ∉ Replacement of tables and BBQs at Goat Ranch, Foreman Creek and Bloomer BICs;
- ∉ Removal of self-registration pay stations at Craig Saddle and Bloomer Point BICs;
- ∉ Removal of the water tank at Foreman Creek BIC;
- ∉ Rebuilding of the portable toilet at Bloomer Point BIC;
- ∉ Relocation and ordering of new panels for interpretive displays at South and North Thermalito Forebay DUAs;
- ∉ Replacement of restroom at Enterprise BR; and
- ∉ Installation of new vault toilet at South Thermalito Forebay DUA.

#### 5.3 RECREATION RESOURCES AFFECTED BY RESERVOIR LEVEL

Lake Oroville provides many year-round recreation opportunities such as fishing and boating. Recreation areas are distributed around the reservoir, and boaters can land along the shore to explore the surrounding country. However, there are specific recreation facilities with limited usefulness during times of low water. Low runoff into the reservoir (e.g., mid-1980s through early 1990s) combined with Project operations can result in extremely low water levels. Originally, boat ramps at the Project were not designed to work under such extremes. It was for this reason that the boat ramps at Bidwell Canyon and Lime Saddle were extended, and the spillway boat ramp was modified to facilitate launches at low water (2003).

When Lake Oroville is at its maximum elevation (900 feet above msl), it covers approximately 15,810 acres and 167 miles of shoreline for recreation. As the pool level decreases during the ensuing recreation season, the use of facilities such as boat ramps, car-top boat ramps, and boat-in camps is increasingly affected. For the last five years the level of the reservoir averaged 834 feet above msl at the beginning of the recreation season in April. At the end of the recreation season in September, the average reservoir level was 783 feet above msl (a 51-foot difference). This average difference is typical, preventing the use of some recreational facilities during low water and making shoreline exploration difficult, as well as creating other resource impacts and conflicts.

Generally, the Bidwell Canyon facilities are available at high, medium, and low lake levels; however, several houseboaters have stated on surveys that they cannot reach the gas pumps located at the Bidwell Marina at the lowest reservoir levels experienced in 2002 (EDAW 2002).

#### 6.0 CONCLUSIONS

The study area offers a broad range of recreational opportunities for area residents and visitors. Developed recreational facilities within the Project area were constructed by DWR, DPR, DBW, and DFG. These include boating, fishing, developed and primitive camping, picnicking, swimming, horseback riding, hiking, off-road bicycling, wildlife watching, hunting, and visitor information sites. There are developed recreation facilities at Loafer Creek, Bidwell Canyon, Spillway, North and South Thermalito Forebays, and Lime Saddle. There are also recreational facilities at the Lake Oroville Visitors Center, Thermalito Afterbay, Feather River Fish Hatchery, Rabe Road Shooting Range, and the OWA. Additionally, there are two full-service marinas, several car-top boat ramps, floating campsites, and floating restroom facilities.

Overall, most of the developed recreation facilities at the Project are in good condition. There are a few exceptions to the acceptable conditions of recreation facilities (see Figure 5.0-1 and Table 6.0-2). These exceptions include basic facilities maintenance of specific sites and placement of directional signs on major roads and at major intersections for certain car-top boat ramps described herein. However, the accessible signage upgrades are being handled by the appropriate agencies (e.g., DPR at Loafer Creek Campground).

Table 6.0-1. Recreation sites with all facilities in good condition.

Aquatic Center	Larkin Road (Thermalito Afterbay) Car-top BR

Bidwell Canyon BR/DUA

Lime Saddle Campground

Lime Saddle Group Campground

Bidwell Canyon Trail

Bloomer Point BIC

Brad P. Freeman Trail

Chaparral Interpretive Trail

Lime Saddle BR/DUA

Loafer Creek BR/DUA

Loafer Creek Campground

Loafer Creek Group Campground

Clay Pit State Vehicular Recreation Area

Loafer Creek Group Campground

Loafer Creek Horse Campground

Craig Saddle BIC Model Aircraft Flying Area
Dan Beebe Trail Monument Hill BR/DUA

Diversion Pool DUA North Thermalito Forebay RV "En Route" Campground

East Hamilton Trailhead Access Oroville Dam
Feather River Fish Hatchery Roy Rogers Trail

Floating Campsites Saddle Dam Trailhead Access

Floating Restrooms Spillway BR/DUA

Goat Ranch BIC Spillway RV "En Route" Campground Lake Oroville Visitors Center

Note: Several trails and trailhead accesses are not listed due to a lack of available comprehensive condition information.

Source: EDAW 2003.

Facilities at most of the trailheads consist of roadside parking, trail access and the trails themselves. Condition, when known for trailheads and trails, is reported in Table 6.0-1. Of the trailhead access sites that have sanitary and picnic facilities, those facilities were in good condition.

The need for facility maintenance, repair or replacement was noted for the following areas and is listed in Table 6.0-2:

- ∉ The Afterbay Outlet Boat Ramp is in relatively poor condition and is typically recommended by four-wheel drive vehicles only (especially when muddy). The ramp is scheduled to be paved in 2004, which would eliminate this problem.

- ∉ Repair is needed to the shoulders of Nelson Bar Car-top BR and Stringtown Cartop BR.
- ∉ Frequency of service of garbage facilities at Dark Canyon Car-top BR, Enterprise BR, Foreman Creek Car-top BR, Stringtown Car-top BR and Wilbur Road (Thermalito Afterbay) BR.
- ∠ Lime Saddle Marina has been severely damaged by 2003 winter storms.

  Repairs are the responsibility of the concessionaire; a new concession contract is being solicited/negotiated.
- ∉ The secondary gravel/dirt road to OWA Area G needs maintenance.

Table 6.0-2. Recreation facilities in need of maintenance, repair, or replacement.

Recreation Location	Maintenance Needed	Repair Needed	Replacement Needed
Afterbay Outlet Boat Ramp	-	Pave boat ramp	-
Bloomer Cove BIC	Restroom	-	-
Bloomer Group BIC	Restroom	-	-
Bloomer Knoll BIC	Restroom	-	-
Dark Canyon Car-top BR	Garage facilities	-	Directional sign
Enterprise BR	Garbage facilities	-	-
Foreman Creek BIC	Restroom	-	-
Foreman Creek Car-top BR	Garbage facilities	-	-
Lime Saddle Marina	1	Marina facilities	-
Nelson Bar Car-top BR	-	Boat ramp shoulder	-
North Thermalito Forebay BR/DUA	Interpretive display		
OWA (Afterbay Outlet Camping Areas C, F, and G)	-	-	Directional sign
OWA (Afterbay Outlet Camping Area G)	Secondary gravel/dirt road, restroom	-	-
Rabe Road Shooting Range	-	-	Directional signs
South Thermalito Forebay BR/DUA	Interpretive display		
Stringtown Car-top BR	Garbage facilities	Boat ramp shoulder	Directional signs
Vinton Gulch Car-top BR	-	-	Directional signs
Wilbur Road (Thermalito Afterbay) BR	Garbage facilities	-	-

Source: EDAW 2003.

When Lake Oroville is at its maximum elevation (900 feet above msl), it's surface area is approximately 15,810 acres and it has 167 miles of shoreline. As the pool level decreases during the progressing recreation season, the ease of access to facilities (such as boat ramps, car-top boat ramps, and boat-in camps) is increasingly affected, preventing or discouraging the use of some recreational facilities during low water and making shoreline exploration difficult.

#### Other facility issues:

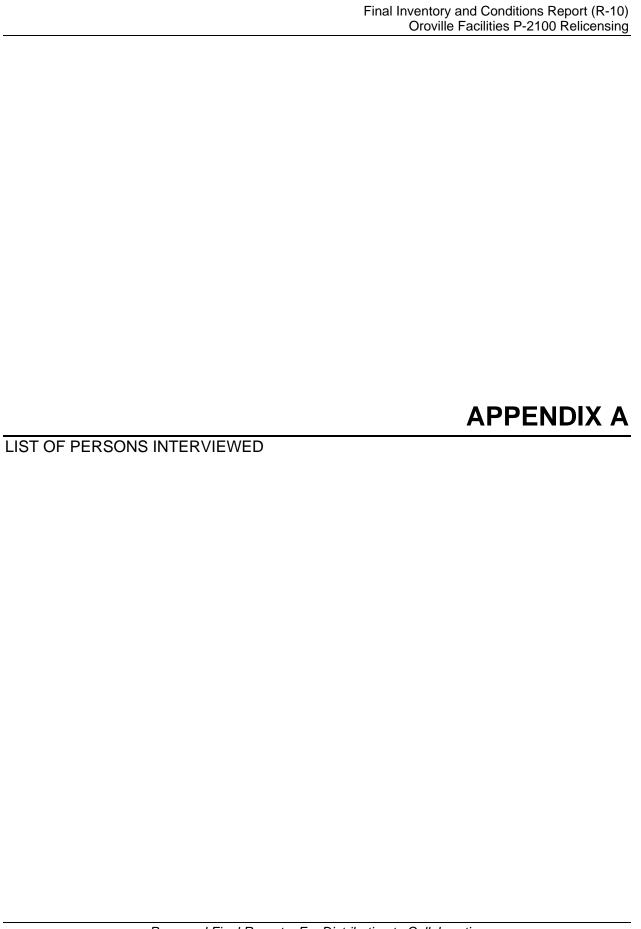
- Generally, the Bidwell Canyon facilities are available at high, medium, and low lake levels; however, several houseboaters have stated on visitor surveys that they cannot reach the gas pumps (located at the Bidwell Marina) at the lowest reservoir levels experienced in 2002 (EDAW 2002).
- ∉ Periodic vehicle access closures due to the presence of sensitive cultural resources at Foreman Creek Car-top BR and Enterprise BR.
- ∉ The OWA boat ramps are unimproved and are not in good condition. These ramps have historically been informal sites and, with the aforementioned exception of the Outlet area ramp, are not currently scheduled to be upgraded.

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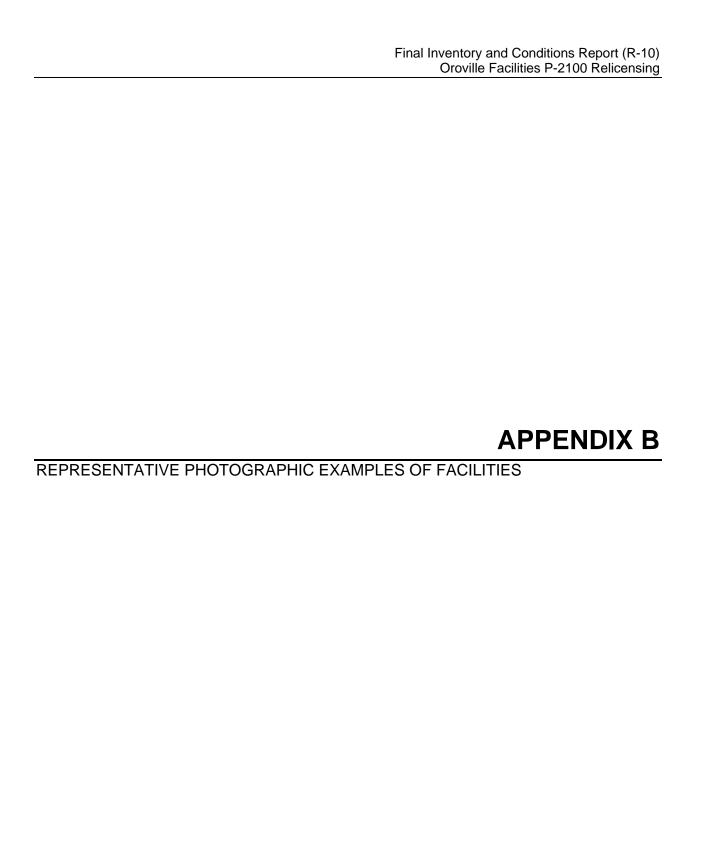
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# APPENDIX A Persons Interviewed About Recreation Development at the Project

Department of Fish and Game
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Mike Meinz	Staff Environmental Scientist	Rancho Cordova, Central Sierra Region	916-358-2899
Banky Curtis	Regional Manager	Rancho Cordova, Central Sierra Region	916-358-2899
Andy Atkinson	Oroville Wildlife Area Supervisor	Sacramento	530-538-2236
Department of B	oating and Waterways		
James DiGiorgio	Civil Engineer	Sacramento Headquarters	916-263-8131
Department of W	Vater Resources		
Dan Peterson	Environmental Program Manager	Environmental Assessment Branch	916-653-9978
Doug Rischbieter	Staff Environmental Scientist	Environmental Compliance and Evaluation Branch	916-445-6310
Judy Anderson	Associate Planner	Central District	Retired
Dave Ferguson	Supervising Engineer	Oroville Field Division	Retired
Department of P	arks and Recreation		
Kate Foley	Superintendent	Northern Buttes District, Oroville	Retired
Steve Feazel	Chief Ranger	Northern Buttes District, Oroville	530-538-2200
Kim Preston	Administrative Officer	Northern Buttes District, Oroville	530-538-2200

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## **TABLE OF CONTENTS**

APPENDIX B REPRESENTATIVE PHOTOGRAPHIC EXAMPLES OF	ВΩ
FACILITIES  Campgrounds and Campsites	
Campgrounds and Campsites	0 2
Figure B-1 Loafer Creek Horse Camp	B-2
Figure B-2 Typical Oroville Wildlife Area entrance	
Figure B-3 OWA Area G Dispersed Camping	
Figure B-4 Bloomer Cove Campsite.	
Figure B-5 Bloomer Group Camp approach	
Figure B-6 Bloomer Group Campsite	
Figure B-7 Craig Saddle Boat-in Campground: representative photo	
– near high pool.	B-5
Figure B-8 Craig Saddle Boat-in Camp restroom.	
Figure B-9 Foreman Creek Boat-in Camp approach.	
Figure B-10 Floating Campsite #4.	
ga. o	
Day Use and Other Facilities	
Figure B-11 Lake Oroville Visitors Center Display	B-8
Figure B-12 Lake Oroville Visitors Center Look-out Tower	
Figure B-13 Floating Restroom #94.	
Figure B-14 Feather River Fish Hatchery.	
Figure B-15 View from Feather River Fish Hatchery.	
Figure B-16 Clay Pit SVRA	
Figure B-17 Loafer Creek Camp Restroom	
Figure B-18 Bloomer Knoll Restroom.	
Figure B-19 Loafer Creek DUA	
Figure B-20 Monument Hill BR/DUA	
Figure B-21 North Thermalito Forebay DUA	
Figure B-22 North Thermalito Forebay DUA	
rigure B-22 Notth Thermalito Forebay DOA	- דו
Boat Ramps	
Figure B-23 Spillway Boat Ramp	R-15
Figure B-24 Spillway Boat Ramp.	
Figure B-25 Enterprise Boat Ramp	
Figure B-26 Nelson Bar Car-top Boat Ramp	
Figure B-27 Bidwell Boat Ramp	
Figure B-28 Lime Saddle Boat Ramp.	
Figure B-29 Loafer Creek Boat Ramp	
Figure B-30 Stringtown Car-top Boat Ramp	.6-10
Trailheads and Trails	
Figure B-31 Lakeland Boulevard Trailhead Access	R-10
Figure B-32 Loafer Creek Multi-Use Trail.	
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# APPENDIX B REPRESENTATIVE PHOTOGRAPHIC EXAMPLES OF FACILITIES

## **CAMPGROUNDS AND CAMPSITES**

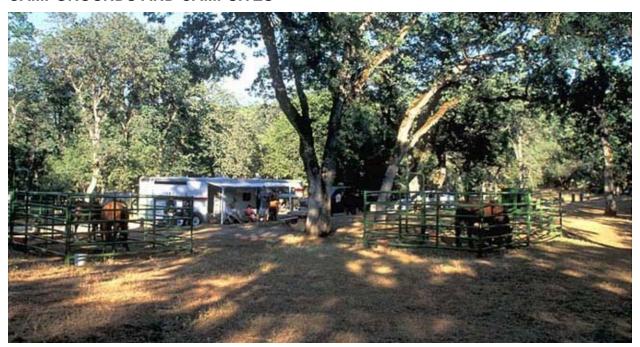


Figure B-1 Loafer Creek Horse Camp.

Figure B-2 Typical Oroville Wildlife Area entrance.





Figure B-3 OWA Area G Dispersed Camping.

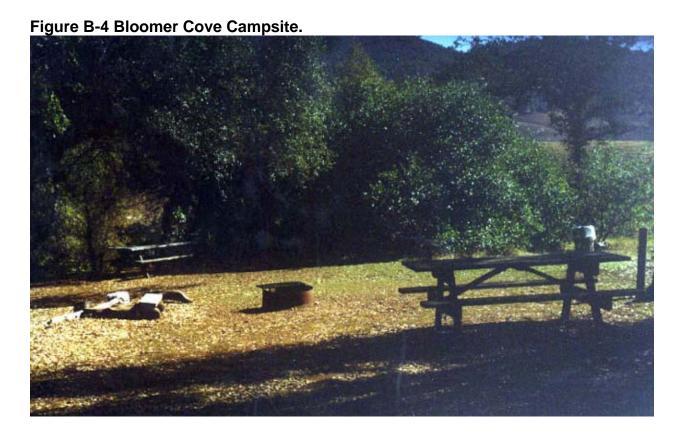
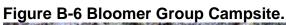




Figure B-5 Bloomer Group Camp approach.





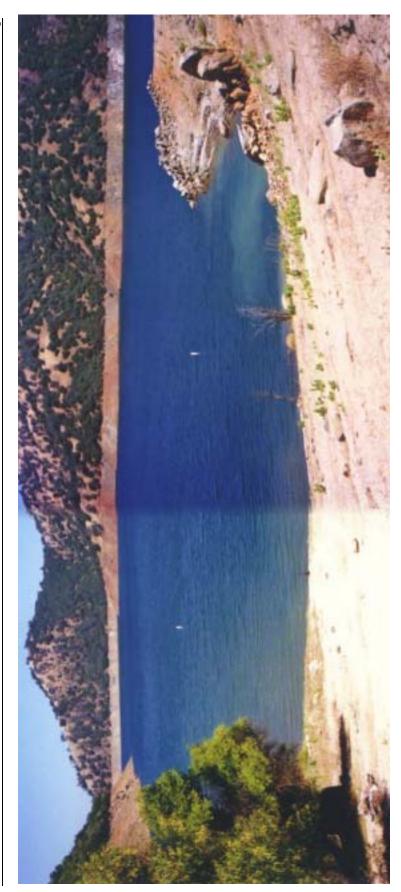


Figure B-7 Craig Saddle Boat-in Campground: representative photo – near high pool.

September 2003

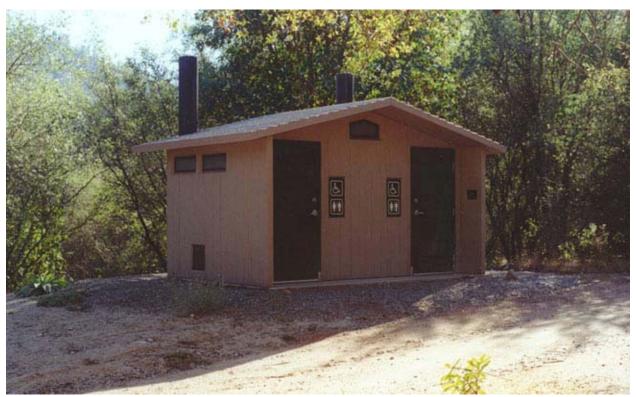


Figure B-8 Craig Saddle Boat-in Camp restroom.

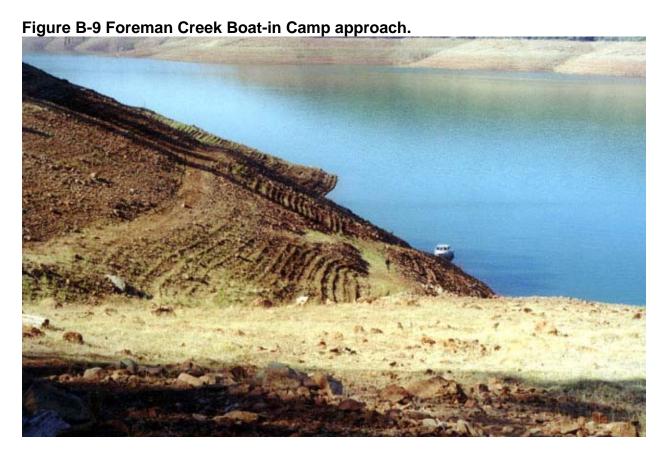




Figure B-10 Floating Campsite #4.

## DAY USE AREAS AND OTHER FACILITIES



Figure B-11 Lake Oroville Visitors Center Display.

Figure B-12 Lake Oroville Visitors Center Look-out Tower.



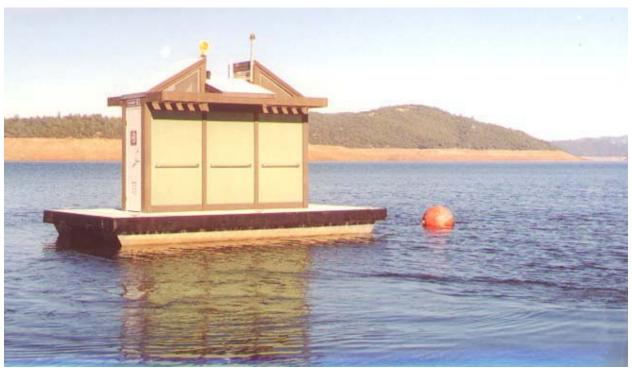


Figure B-13 Floating Restroom #94.

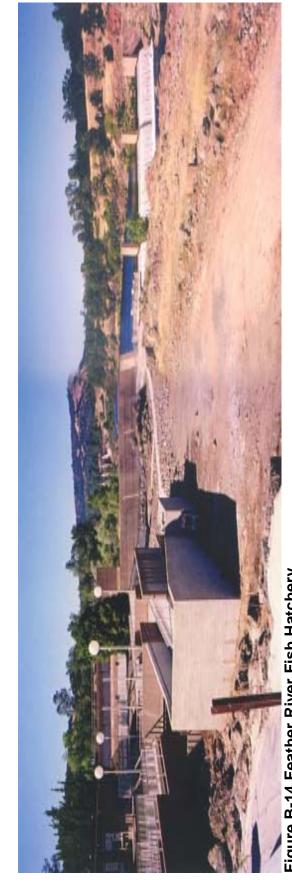


Figure B-14 Feather River Fish Hatchery.

Figure B-15 View from Feather River Fish Hatchery.





Figure B-16 Clay Pit SVRA.

September 2003

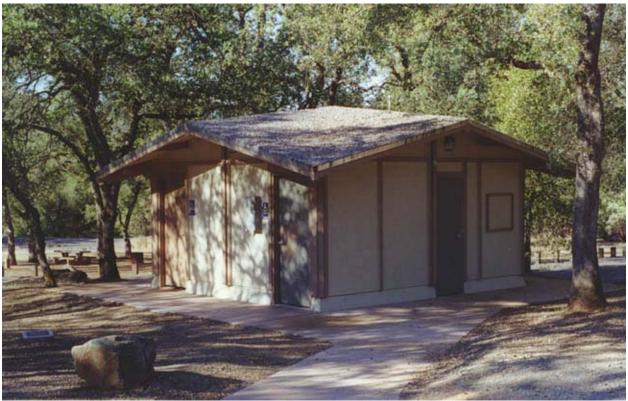


Figure B-17 Loafer Creek Camp Restroom.

Figure B-18 Bloomer Knoll Restroom.





Figure B-19 Loafer Creek DUA.







Figure B-21 North Thermalito Forebay DUA.





## **BOAT RAMPS**



Figure B-23 Spillway Boat Ramp.

Figure B-24 Spillway Boat Ramp.





Figure B-25 Enterprise Boat Ramp.





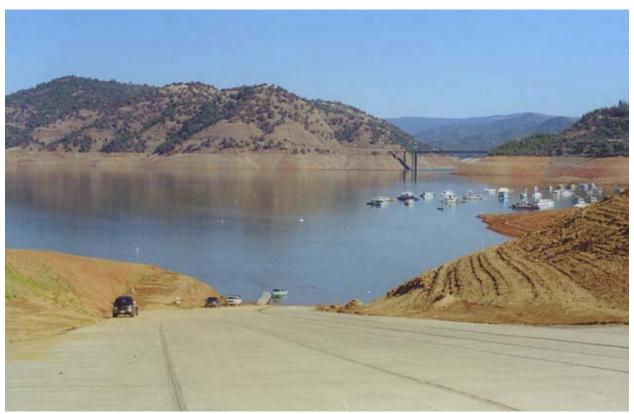


Figure B-27 Bidwell Boat Ramp.







Figure B-29 Loafer Creek Boat Ramp.





## TRAILHEADS AND TRAILS



Figure B-31 Lakeland Boulevard Trailhead Access.





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	Final Inventory and Conditions Report (R-10) Oroville Facilities P-2100 Relicensing
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